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Item 11(b) of the provisional agenda
Matters relating to finance
Further guidance to the Least Developed Countries Fund

Synthesis report on the progress made in the implementation of the remaining elements of the least developed countries work programme

Note by the secretariat

Summary

This report synthesizes the information submitted by one group of Parties, and relevant organizations, on their experiences with the implementation of the remaining elements of the least developed countries work programme. It presents the relevant mandates, scope and possible action by the Subsidiary Body for Implementation. It also presents a background to the topic, some general points raised and information on options to meet country-driven needs. The report then synthesizes the information on the progress made in the implementation of the remaining elements of the least developed countries work programme, and ends with a brief conclusion.

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I. Introduction

A. Mandate

1. The Conference of the Parties (COP), at its seventeenth session, requested the Least Developed Countries Expert Group (LEG) to provide further specifications on each of the elements of the least developed countries (LDCs) work programme other than the national adaptation programmes of action (NAPAs), in consultation with the Global Environment Facility (GEF), and to report to the Subsidiary Body for Implementation (SBI), at its thirty-sixth session, with a view to informing the COP on the guidance to be provided to the GEF on support for the implementation of the elements of the LDC work programme other than the NAPAs.[1] The LEG undertook this work at its twenty-first session and also proposed options to meet country-driven needs. The expert group reported on its work in its report to the SBI.[2]

2. COP 18 invited Parties and relevant organizations to submit to the secretariat, by 1 August 2014, information on their experiences with the implementation of the remaining elements of the LDC work programme, considering the options contained in the report on the twenty-first meeting of the LEG, for compilation by the secretariat into a miscellaneous document[3] for consideration at SBI 41.[4]

3. At the same session, the COP requested the secretariat to prepare a synthesis report on this matter, for consideration at SBI 41.[5]

B. Scope of the note

4. This report takes into account information from:

(a) A formal submission from Nepal on behalf of LDCs, representing the views of 48 Parties;[6]

(b) The GEF and two of its agencies, the United Nations Development Programme (UNDP) and the United Nations Environment Programme (UNEP);

(c) The reports of the LEG, including the report on its twenty-first meeting;

(d) Other relevant sources of information.

5. It begins with a synthesis of the general points raised, and then synthesizes information on options to meet country-driven need.

6. The report then discusses progress made in the implementation of the remaining elements of the LDC work programme, by synthesizing the information received on these elements.

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[1] Decision 9/CP.17, paragraph 2.
[2] FCCC/SBI/2012/7, paragraphs 31–45.
[3] FCCC/SBI/2014/MISC.3.
[4] Decision 10/CP.18, paragraph 8.
[5] Decision 10/CP.18, paragraph 9.
[6] The submission is available at <http://www4.unfccc.int/submissions/Lists/OSPSubmissionUpload/74_20_130537825019904873-Nepal%20Submission%20on%20Behalf%20of%20LDCs%20LDCF%20[final].pdf>.

C. Possible action by the Subsidiary Body for Implementation

7. SBI 41 may wish to consider the information contained in this document in its consideration of further guidance to the Least Developed Countries Fund (LDCF).

II. Background

8. The LDC work programme, established by decision 5/CP.7, contains the following elements:

(a) Strengthening existing and, where needed, establishing, national climate change secretariats and/or focal points to enable the effective implementation of the Convention and its Kyoto Protocol in LDCs;

(b) Providing training, on an ongoing basis, in negotiation skills and language, where needed, to develop the capacity of negotiators from LDCs to participate effectively in the climate change process;

(c) Supporting the preparation of NAPAs;

(d) Promotion of public awareness programmes to ensure the dissemination of information on climate change issues;

(e) Development and transfer of technology, particularly adaptation technology (in accordance with decision 4/CP.7);

(f) Strengthening the capacity of meteorological and hydrological services to collect, analyse, interpret and disseminate weather and climate information to support the implementation of NAPAs.

9. Further specifications on each of the elements above of the LDC work programme other than the NAPA process were discussed by the LEG and the GEF at the twenty-first meeting of the LEG.

III. Synthesis of general views raised

10. The least developed countries acknowledged the work of the GEF in preparing a user-friendly guide for accessing resources and streamlining the project cycle.[7] It also noted that the time needed to approve and endorse NAPA implementation projects has been reduced. The group suggested that the time frame of the project cycle be further reduced in order to address the urgent and immediate needs of LDCs.

11. The least developed countries expressed their concern about the limited focus to support the preparation of NAPAs alone and noted that support should be extended to the entire LDC work programme, as well as the formulation and implementation of the national adaptation plans.

12. Furthermore, the group noted its concern about delays in communication between countries and the GEF implementing agencies, recommending that the agencies enhance their communication with the recipient countries to ensure the timely implementation of NAPAs and other elements of the LDC work programme.

[7] The guide is available at <http://www.thegef.org/gef/sites/thegef.org/files/publication/23469_LDCF.pdf>.

13. The least developed countries noted the lack of resources to support the implementation of projects under NAPAs and other elements of the LDC work programme. As a result, it recommended that the GEF should take all necessary and appropriate actions to raise awareness about the urgency of the need for adequate and predictable resources for the LDCF. The group added that Parties included in Annex II to the Convention, and other Parties that are in a position to do so, should urgently provide additional funding to address the challenges and immediate needs of LDCs. Information on the status of the LDCF is available in the annex.

14. The LEG noted that some activities related to elements of the LDC programme other than NAPA preparation have been partially supported, including through bilateral support. It suggested that there is still an opportunity for the GEF to contribute to ongoing efforts as a means of catalysing continuous and predictable support from the international community.

15. The least developed countries also recommended that the GEF should seek ways to strengthen collaboration with the Green Climate Fund to channel resources that would enable LDCs to finance the remaining NAPA projects.

16. The least developed countries discussed the need for further information sharing, noting that there are various projects that are being implemented through the LDCF. It recommended that the GEF should facilitate initiatives that encourage best practices and the sharing of information so that countries could benefit from the valuable practical experiences of others. This would be most relevant at the regional level.

IV. Options to meet country-driven needs

17. The LEG noted that different elements of the LDC work programme hold different levels of priority for different countries, and the decision on which activities to implement should be made by the country in question.

18. In relation to linkages with other processes, the LEG noted that enabling activities such as the preparation of national communications and technology needs assessments could have helped to address some of the needs under the remaining elements of the work programme.

19. The GEF reported that the elements of the LDC work programme, other than NAPAs, are supported under the LDCF through projects and programmes that support the implementation of NAPAs.

20. The LEG discussed the fact that mandates had been given to the GEF to provide funding for the remaining elements of the LDC work programme. In this context, it proposed the following options, which are not mutually-exclusive, to meet country-driven needs:

(a) Enabling activities that could be part of a global programme (projects by one or several GEF agencies) for all LDCs with support provided to each country based on their prioritization of the elements of the LDC work programme. The least developed countries, in their submission, also included this option as one of the recommendations to meet country-driven needs;

(b) Medium- or full-sized projects based on the LDCF resources available to each LDC using existing modalities for implementing NAPA priorities. The least developed countries noted that the LDCF should encourage medium- or full-sized projects for LDCs to access funding for the implementation of the LDC work programme. The group also stressed that the LDCF should allow LDCs to follow a dynamic implementation

of their NAPAs by supporting programmatic approaches instead of individual projects. The group added that it should allow for establishing strong national support systems to ensure the best results;

(c) Whenever it is possible and practical, the GEF could also facilitate direct access by LDCs for the implementation of the other elements of the LDC work programme other than the NAPA. In the submission, LDCs proposed that the LDCF should enhance enabling activities for LDCs to be able to better access funds by using the direct access modality. The group added that this would expedite the implementation of projects and also promote country ownership.

V. Progress made in the implementation of the remaining elements of the least developed countries work programme

A. Strengthening existing and, where needed, establishing, national climate change secretariats and/or focal points

21. The LEG identified a need to provide adequate support to countries to enable them to strengthen their climate change secretariats. It highlighted the need for a permanent or at least a long-term financial support for a secretariat or unit that handles climate change matters on a full-time basis. In some cases, this could be combined with oversight of other conventions.

22. The LEG noted that the completion of many initial national communications from LDCs was used as the basis for establishing their climate change secretariats. Many LDCs established a national secretariat to oversee the national communication as well as to manage the NAPA preparation process. The LEG also noted that the existing secretariats were at different stages of development.

23. In the submission, LDCs noted that the LDCF should continue to encourage proponents to set aside a specific percentage of their project budgets and provide additional resources where needed, to support the activities of national climate change secretariats/UNFCCC focal points.

24. The LEG suggested that the GEF could contribute to such efforts by developing, in collaboration with its agencies, a global programme with a strong component on training aimed at strengthening the capacity of existing climate change secretariats with regard to the implementation of the Convention and its Kyoto Protocol. It recommended that the GEF should seek good practices that could be replicated by looking at models of secretariat support from other multilateral environmental agreements and Conventions, including the Montreal Protocol.

25. The GEF, UNDP and UNEP reported that a full-sized project has been endorsed[8] for "Building capacity for LDCs to participate effectively in intergovernmental climate change processes", with a total amount of USD 4.54 million under the LDCF. UNDP and UNEP reported that they worked together on the development of the project, undertaking consultations with LDCs and other relevant stakeholders.

26. The project aims to strengthen the institutional and technical capacities of LDCs for more effective participation in intergovernmental climate change processes, and coordination of climate change adaptation and mitigation efforts. The project is structured around the following components:

[8] Submitted in July 2014 and endorsed on 7 August 2014 by the Chief Executive Officer of the GEF.

(a) Enhancing the capacity of LDCs to participate effectively in intergovernmental climate change processes;

(b) Strengthening the capacity of LDCs to collect, analyse, interpret and archive climate change data and information;

(c) Generating and disseminating knowledge products, including through training as well as South–South and North–South exchange.

27. The GEF reported that the project addresses important gaps in how the GEF, through the LDCF, along with other relevant organizations have addressed this element of the LDC work programme. In addition, it addresses the element on "Providing training, on an ongoing basis, in negotiating skills and language, where needed, to develop the capacity of negotiators from LDCs to participate effectively in the climate change process" (para. 32 below).

28. The GEF also reported that the project complements ongoing LDCF projects that contribute significantly towards the technical and institutional capacities and policy frameworks of LDCs with a view to supporting NAPA implementation and advancing the NAP process.

B. Providing training, on an ongoing basis, in negotiation skills and language

29. The LEG noted that there are past and ongoing initiatives that provide training sessions and capacity-building for developing countries including LDCs, but that there are still LDCs whose needs had not been met. These LDCs would like to receive further training in negotiation skills and language.

30. It was further noted that the following are also relevant:

(a) Means to equip climate change negotiators with up-to-date information on major issues under discussion in the intergovernmental process;

(b) Support to initiatives that aim to improve the language skills of climate change negotiators, including fellowship programmes and online language courses.

31. The LEG noted that those LDCs that have remaining needs with respect to this element of the LDC work programme should, with the assistance of the GEF and its agencies, prioritize and communicate such needs for expedited support, including through a dedicated support programme.

32. The GEF full-sized project: "Building capacity for LDCs to participate effectively in intergovernmental climate change processes", mentioned in paragraphs 25–28 above, also seeks to address this element of the LDC work programme.

C. Promotion of public awareness programmes

33. The LEG noted that public awareness programmes on climate change in LDCs could build on the lessons learned from the work based on Article 6 of the Convention. This means that the following could be undertaken:

(a) Strengthening of existing channels for promoting awareness of climate change issues;

(b) Developing and implementing awareness programmes: either education programmes (both formal and informal education) or training programmes for groups with a key role in climate change education and communication (e.g. teachers and journalists);

(c) Facilitating public access to information on climate change through websites, flyers, newsletters, etc., with translation into local languages.

34. The LEG also noted that the lack of financial resources poses a significant challenge. This is particularly true with regards to expanding outreach activities from NAPA project locations to other regions of a country. The expert group added that contributions could be sourced from each NAPA/adaptation project towards a national pool to support nationwide activities on outreach.

35. The GEF reported that existing LDCF projects systematically incorporate activities that promote public awareness and ensure the dissemination of information on climate change issues. Of the 95 projects that had been endorsed or approved by the Chief Executive Officer of the GEF, as at 15 September 2014, 55 are providing training to more than 460,000 people on various climate change issues in 35 LDCs. Many more stakeholders are reached by less intensive sensitization and public awareness activities.

D. Development and transfer of technology, particularly adaptation technology (in accordance with decision 4/CP.7)

36. The LEG noted the following activities related to the development and transfer of technology could be undertaken:

(a) Conducting technology needs assessments for adaptation at the national, local and community levels;

(b) Strengthening of a technology enabling environment, including national institutions for technology innovations, and research and technology development;

(c) Capacity-building, including:

(i) The provision of opportunities for training in the use of environmentally sound technologies through demonstration projects;

(ii) The enhancement of skills in the adoption, adaptation, installation, operation and maintenance of specific environmentally sound technologies;

(iii) Training in project development, and the management and operation of climate technologies;

(iv) The improvement of knowledge on energy efficiency and the utilization of renewable energy technologies;

(d) Strengthening or establishing mechanisms for technology transfer in key sectors, including water resources (irrigation, water management), agriculture and food security (integrated soil fertility management, crop and livestock breeding, seed production and storage) and coastal zones (the construction of dykes, afforestation and reforestation of coastal areas).

37. The LEG suggested that support under the LDCF could facilitate initiatives that would encourage the sharing of information, experiences, best practices and know-how in paragraph 36(a–d) above, especially at the regional level. Stand-alone projects of a medium- or full-sized nature could be an ideal format to allow LDCs to access funding for the implementation of this element of the LDC work programme.

38. The GEF reported that this element of the LDC work programme represents an important means through which LDCF projects implement NAPA priorities. All NAPA implementation projects contribute towards the demonstration, deployment and/or dissemination of clearly identifiable adaptation technologies; and many also strengthen the enabling environments for technology transfer through policy and regulatory reform. The GEF has noted that, according to information drawn directly from project documents, different forms of adaptation technology can be found in 93 projects (as at 16 September 2014).

39. The GEF added that during the its fifth cycle, 20 per cent of LDCF financing was identified as directly targeting the transfer of adaptation technology, one of three strategic objectives of the GEF adaptation programme during that replenishment period.

E. Strengthening the capacity of meteorological and hydrological services

40. In its submission, LDCs suggested that the LDCF should continue to encourage proponents to set aside a specific percentage of the project budget and provide additional resources where needed, towards strengthening national data collection efforts. This is consistent with a proposal by the LEG in which it stated that if this element were implemented, the number of monitoring stations would increase and ongoing support could be sought from local sources or through contributions from new projects.

41. The LEG also suggested exploring how LDCs could identify and package their needs, in particular with regard to facilitating access to climate change data, into a full-sized project to be submitted for funding under the LDCF.

42. The LEG underscored that data collection is fundamental in building an information and knowledge base to support the analysis and decision-making process for adaptation. It noted that little progress had been reported by LDCs in enhancing their capacity to collect, analyse and disseminate relevant information. It also noted that the following could be undertaken:

(a) Strengthening the capacity for making observations which could entail modernization; strengthening and expansion of observational networks and equipment, including remote sensing; and the strengthening of regional instrumentation and calibration centres;

(b) Strengthening telecommunication systems for the transmission of weather and climate data from the observing platforms to the analysis and processing centres;

(c) Capacity-building for forecasting, post-processing and service production systems;

(d) Establishing and/or upgrading data management systems;

(e) Strengthening the efficient communication of climate information from the processing centres to various end users.

43. According to the GEF, support is provided to this element of the LDC work programme through the LDCF. Hydro-meteorological and climate information services are featured as a priority in several NAPAs and, as a result, 11 per cent of all LDCF financing, or USD 98.4 million, has been directed towards enhancing such services as a priority. Altogether, 49 projects in 33 LDCs support hydro-meteorological and climate information services. Ten of the latter projects are on early warning systems in Africa, and are implemented by UNDP and UNEP.

VI. Conclusion

44. This report synthesizes the views of only one group of Parties, LDCs. It provides information received from the GEF and two of its agencies, and includes recommendations and information from the LEG. In this regard, the report does not attempt to present a balanced discussion, but can be considered as one source of relevant information.

Annex

Update on the status of the Least Developed Countries Fund

Summary of the Least Developed Countries Fund as at 15 September 2014

	LDCF
Pledges and contributions	
Total cumulative pledges (USD equivalent)	908 486 331
Total paid contributions (USD)	899 651 226
Project approvals	
Total cumulative funding approvals towards projects and programs (including agency fees) (USD)	882 724 044
Total number of projects	213[a]
Number of countries	51
Projects endorsed or approved by the GEF CEO	
Number of projects	148
Total funding commitments (including agency fee) (USD)	**470 200 633**

Source: Global Environment Facility.

Note: As at 15 September 2014, cumulative pledges to the Least Developed Countries Fund amounted to USD 908.49 million. Of the total resources pledged, USD 899.65 million or 99 per cent had been paid. Resources had been provided by 25 contributing members.

Abbreviations: GEF CEO = Chief Executive Officer of the Global Environment Facility, LDCF = Least Developed Countries Fund.

[a] Includes 10 child projects under four programmatic approaches.

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Item 6(c) of the provisional agenda
Matters relating to the mechanisms under the Kyoto Protocol
Report of the administrator of the international transaction log under the Kyoto Protocol

Annual report of the administrator of the international transaction log under the Kyoto Protocol

Note by the secretariat

Summary

The tenth annual report of the administrator of the international transaction log (ITL) provides information to the Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol (CMP) on the activities of the ITL administrator from 1 October 2013 to 30 September 2014. This report also contains information on transactions of Kyoto Protocol units, as requested at CMP 6, as well as information on the outcomes of the sixteenth Registry System Administrators Forum, which took place on 6 and 7 November 2014. The CMP, by decision 12/CMP.1, requested the Subsidiary Body for Implementation (SBI) to consider, at its future sessions, the annual reports of the ITL administrator. The SBI may wish to take note of the information contained in this report and provide guidance to the secretariat and Parties, as necessary, concerning the implementation of registry systems.

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I. Introduction

A. Mandate

1. The Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol (CMP), by decision 13/CMP.1, paragraph 38, requested the secretariat to establish and maintain an international transaction log (ITL) to verify the validity of transactions proposed by registries as established under decisions 3/CMP.1 and 13/CMP.1. The ITL is essential for the implementation of the mechanisms under Articles 6, 12 and 17 of the Kyoto Protocol.

2. The Conference of the Parties (COP), by decision 16/CP.10, requested the secretariat, as the ITL administrator, to report annually to the CMP on organizational arrangements, activities and resource requirements and to make any necessary recommendations to enhance the operation of registry systems.

3. The CMP, by decision 12/CMP.1, requested the Subsidiary Body for Implementation (SBI) to consider, at its future sessions, the annual reports of the ITL administrator, with a view to requesting the CMP to provide guidance, as necessary, in relation to the operation of registry systems.

B. Scope of the note

4. This tenth annual report of the ITL administrator provides information on the implementation of the ITL and its operational status, including the facilitation of cooperation with registry system administrators (RSAs) through the activities of the Registry System Administrators Forum (RSA Forum) and the independent assessment of registry systems. This annual report also contains information on transactions in the ITL.

5. This report covers the reporting period from 1 October 2013 to 30 September 2014.

C. Possible action by the Subsidiary Body for Implementation

6. The SBI may wish to take note of the information contained in this report and request the CMP to provide guidance to the secretariat and Parties, as necessary, concerning the implementation of registry systems.

II. Work undertaken since the publication of the ninth annual report of the administrator of the international transaction log under the Kyoto Protocol

A. Summary of work undertaken

7. The ITL administrator continued to convene the RSA Forum and to coordinate the work of its working groups.

8. The activities related to the sixth annual assessment of national registries and accounting of Kyoto Protocol units were completed successfully.

9. The ITL administrator continued to support the normal operations of the ITL. Detailed information on the operational activities and operational performance is provided in chapter II.C below.

B. Implementation activities

1. International transaction log releases

10. During the reporting period, there was one release of ITL software. This release contained the implementation of several provisions of the Doha Amendment (decision 1/CMP.8), the integration of the new clean development mechanism (CDM) carbon dioxide capture and storage projects (decision 10/CMP.7) and the support for the modalities for expedited eligibility (decision 7/CMP.9).

2. International transaction log operational procedures

11. At the end of August 2014, the ITL administrator introduced a procedure to provide guidance on the activities and reporting requirements of the true-up period[1] for the first commitment period of the Kyoto Protocol. The procedure specifies activities, timelines and the responsibilities of Parties, RSAs, expert review teams and the secretariat. It describes, in particular, the compilation and accounting report, and compliance assessment, carry-over transactions, cancellation of outstanding units and the verification of these activities via the annual assessment and review process.

3. Second commitment period update of standard electronic format reporting tools

12. Decision 14/CMP.1, annex I, paragraph 3, requests that Parties included in Annex I to the Convention (Annex I Parties) submit a standard electronic format (SEF) report, including information on emission reduction units, certified emission reductions (CERs), temporary CERs, long-term CERs, assigned amount units and removal units from its national registry transferred or acquired in the year preceding the reporting year, on a yearly basis. Each Annex I Party has been provided by the ITL administrator with an application that enables the Party to create an SEF report based on reporting requirements contained in decision 14/CMP.1.

13. During the reporting period, the Subsidiary Body for Scientific and Technological Advice (SBSTA) recommended an updated set of SEF tables that includes reporting requirements related to the second commitment period of the Kyoto Protocol for adoption by the CMP.

14. In order to provide support for the updated SEF tables, the ITL administrator prepared a new software application to enable Annex I Parties and the secretariat to generate and compare SEF reports based upon current and new reporting requirements as of 2015. This new SEF reporting application has been tested with the support of national registry administrators. A final version of the application will be made available in the first quarter of 2015, following a CMP decision on the SEF reporting format for the second commitment period of the Kyoto Protocol.

4. International transaction log technology maintenance

15. In the reporting period, the support contract for the current version of the application server software used in the ITL was extended to reconsider the option of migrating the

[1] A 100-day period after final emissions have been reported for the commitment period, during which Parties have the opportunity to undertake final decisions necessary to achieve compliance with their commitment under Article 3, paragraph 1, of the Kyoto Protocol.

application server to a different technology solution. This reconsideration was made on the basis of the refined outcomes of a feasibility study and risk assessment, as well as revised vendor quotes for the current application server's product licence and support fees.

16. The option of purchasing new updated licences for the current application server software was evaluated and the decision was made to stay with the same application server technology. This decision was adopted with a view to mitigating identified risks when transitioning to a new technology, while keeping the 'backward compatibility' of existing interfaces with national registry systems.

17. The ITL administrator routinely oversees the replacement of hardware components in the ITL system infrastructure before these components run out of warranty. In the reporting period, the database server software was migrated to a newer version in order to increase its performance, to address identified security vulnerabilities and to extend the time frame for commercial support.

C. Operational activities

1. Support for registry testing

18. Since November 2012, the ITL administrator has offered registries the opportunity to perform the Data Exchange Standards (DES) Annex H[2] testing for the second commitment period of the Kyoto Protocol on a voluntary basis. While, in the reporting period, no voluntary Annex H testing for the second commitment period was requested by registries, mandatory full Annex H testing was conducted and completed for two registries as part of a planned migration of their software and hosting arrangements. In addition, one registry and the European Union Emissions Trading System (EU ETS) disaster recovery testing exercises were planned and performed with the support of the ITL administrator in the reporting period.

2. Enhanced technical cooperation with the European Union Emissions Trading System

19. During the reporting period, the ITL administrator held several technical meetings with its counterpart of the EU ETS. During these meetings, representatives of the two systems discussed different technical subjects related to the ITL, its supported processes, the European Union Transaction Log[3] and the Consolidated System of European Union Registries. These regular exchanges have helped to enhance support for respective test activities and to improve the mobilization of resources for the resolution of issues.

3. International transaction log disaster recovery testing

20. The yearly disaster recovery testing of the ITL was executed in July 2014 in collaboration with the EU ETS support teams and with the participation of two registries, one of which being an EU ETS registry. The testing was successful and the time to failover, that is, the time within which the ITL service is restored on the secondary site after a simulated disaster take place on the primary site, was 90 minutes, where the recovery time objective for such a situation is three hours.

[2] Annex H to the DES, version 1.1.10, containing functional test suites covering modalities, rules and guidelines for emissions trading under Article 17 of the Kyoto Protocol.

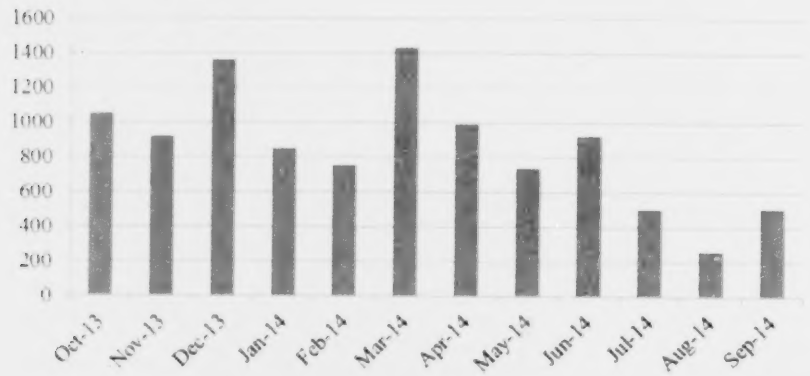
[3] The European Union Transaction Log replaced the community independent transaction log, following the consolidation of the EU ETS registries in June 2012.

4. Transactions data and analysis

21. The volume of activity in the ITL can be measured through various transactional and operational metrics. Figure 1 shows the number of transactions proposed to the ITL in the production environment[4] each month from 1 October 2013 to 30 September 2014. Furthermore, the breakdown by registry of the number of transactions and the number of Kyoto Protocol units subject to transactions proposed to the ITL from 1 October 2013 to 30 September 2014 is shown in annexes III and IV, respectively.

Figure 1

Number of transactions proposed to the international transaction log from 1 October 2013 to 30 September 2014

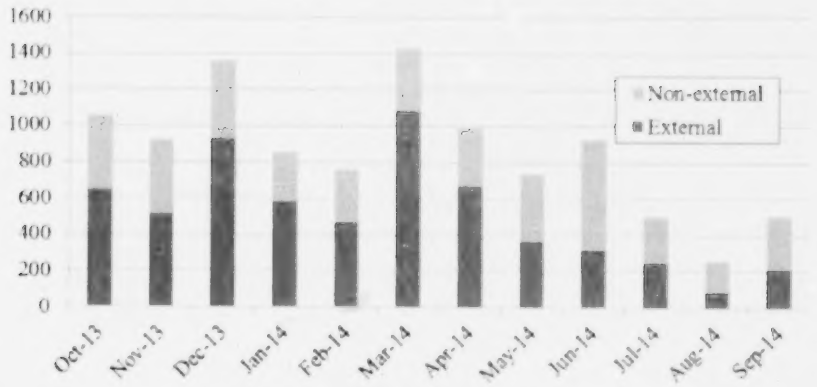


22. There are two categories of transactions in the ITL: external transactions and non-external transactions. External transactions are transactions in which the units involved leave the originating registry and arrive in a different acquiring registry. Non-external transactions are transactions in which the units stay in the same registry although they can change account, move to another account type or change unit type. Figure 2 shows the evolution of the breakdown of external and non-external transactions in the ITL from 1 October 2013 to 30 September 2014.

Figure 2

Number of external transactions compared with non-external transactions from 1 October 2013 to 30 September 2014

[4] The live system of the ITL used to support emissions trading under the Kyoto Protocol.

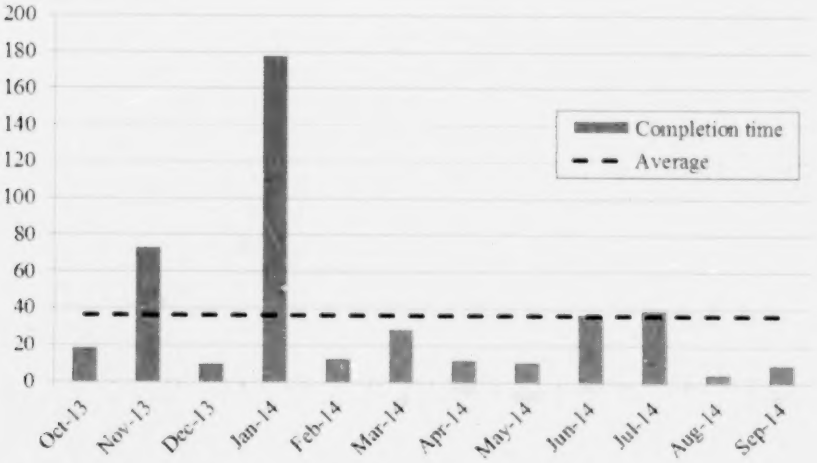


23. Transactions proposed to the ITL end in one of three statuses: terminated, cancelled or completed.

24. The transaction completion time includes the latency incurred by the travel time of messages through the registry network and the processing time within registries, the ITL and the European Union Transaction Log if an EU ETS registry is involved in the transaction. The monthly averages of the transaction completion time from 1 October 2013 to 30 September 2014 are displayed in figure 3.

Figure 3

Monthly averages of transaction completion time in seconds from 1 October 2013 to 30 September 2014



25. The abnormally high transaction completion time observed in January 2014 is a result of two discrete events. The first event was a major software change in one of the connected national registries that led to temporary increased response times after reconnection. The second event was due to an incident where the processing workflow of a single transaction had stopped for more than two hours in one of the connected national registries. This incident was eventually resolved through a manual intervention.

26. Transactions which are not compliant with ITL specifications in the DES are terminated when they are proposed to the ITL. A transaction termination ratio is obtained by dividing the number of terminated transactions by the number of transactions proposed in a given time frame. This ratio can be considered as an indicator of the level of internal checking performed by registries to ensure that the proposed transaction and its data records are accurate. The evolution of this ratio from 1 October 2013 to 30 September 2014 is shown in figure 4.

27. When a transaction has not progressed in its workflow for 24 hours, it is cancelled in the ITL through the ITL transaction clean-up mechanism. A transaction cancellation ratio is obtained by dividing the number of cancelled transactions by the number of proposed transactions in a given time frame. This ratio can be considered as an indicator of the extent of communication problems in registry systems. Figure 4 provides the transaction cancellation ratios from 1 October 2013 to 30 September 2014.

Figure 4

Transactions cancellation and termination ratios from 1 October 2013 to 30 September 2014

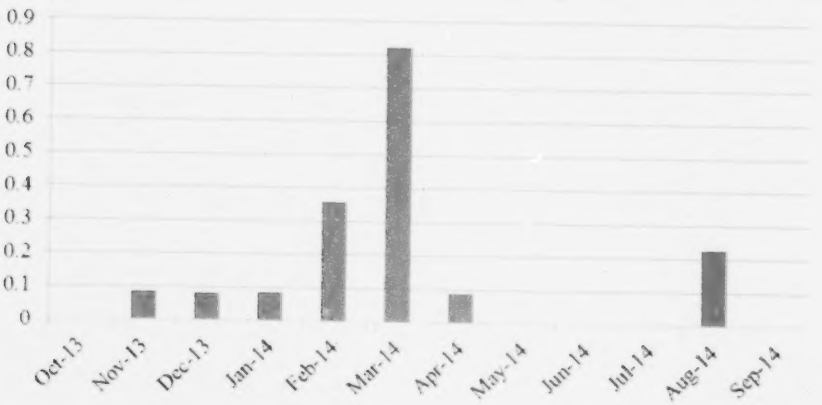
(Per cent)

28. The reconciliation process in the ITL ensures that registries keep an accurate record of their Kyoto Protocol unit holdings. The occurrence of a reconciliation inconsistency indicates a discrepancy between the ITL amounts and the records of the registry. The inconsistent reconciliation ratio is obtained by dividing the number of inconsistent reconciliations by the number of reconciliations initiated in a given time frame. It is an indicator of the capacity of registries to maintain accurate records of their Kyoto Protocol unit holdings. Figure 5 shows the inconsistent reconciliation ratios from 1 October 2013 to 30 September 2014.

Figure 5

Inconsistent reconciliation ratio from 1 October 2013 to 30 September 2014

(Per cent)



29. The increased inconsistent reconciliation ratio observed in February, March and August 2014 is the result of national registry software changes that led to occurrences of mismatching totals following software roll-outs.

30. Unavailability of the ITL prevents registries from performing their transactions. This can occur owing to planned maintenance windows, of which RSAs are informed in advance, and unplanned outages caused by operational incidents. The ITL availability for the period from 1 October 2013 to 30 September 2014, taking into account unplanned outages, was 99.94 per cent.

31. The ITL started to receive units applicable to the second commitment period of the Kyoto Protocol in April 2013, when a first issuance of the second commitment period CERs was made in the CDM registry. As at 30 September 2014, these CERs had been issued for 290 CDM projects, for a total of 58,985,372 units.

32. Out of the 58.9 million of the second commitment period CERs issued, more than 4.5 million were held by national registries. These 4.5 million units were spread across 16 national registries.

33. These national registries (the CDM registry excluded) proposed to the ITL a total of 72 transactions with the second commitment period units by the end of the reporting period. Out of 72 transactions, 51 were successful. A high termination ratio of transactions with these units is mostly owing to mismatches between the commitment period of the accounts and that of the units, and to the use of the first and the second commitment period units in a same transaction proposal, which is not allowed in the ITL.

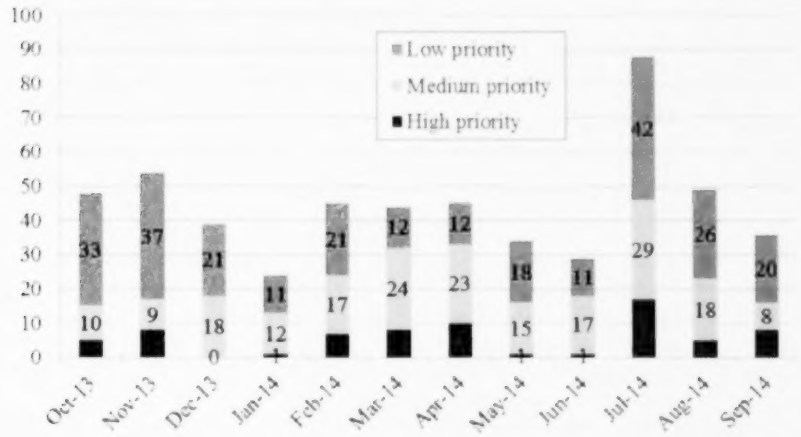
5. International transaction log service desk

34. The ITL service desk is the focal point for all support provided to RSAs in the operation and testing of registries. The ITL service desk also carries out the technical activities related to the initialization and go-live processes under the supervision of the ITL administrator. The ITL service desk provides continuous support to RSAs from 8 p.m. on Sundays until midnight on Fridays based on Coordinated Universal Time.

35. Figure 6 tracks the number of support requests handled by the ITL service desk during the reporting period, categorized by priority. High-priority support requests are initiated when the processing of transactions from one or more registries cannot be performed. Medium-priority support requests are related to the performance or the stability of the ITL, which may affect transaction processing. Low-priority support requests are related to information items or performance issues which do not directly affect transaction processing.

Figure 6

Number of support requests handled by the international transaction log service desk from 1 October 2013 to 30 September 2014



36. The increased number of support requests observed in July 2014 was the result of the ITL disaster recovery testing exercise which was carried out during that period.

6. Change management activities

37. The ITL administrator has established a change management procedure since the go-live of the ITL. This procedure is followed when making changes to the ITL software and to the procedures governing different processes.

38. In the reporting period, there were five ITL change requests directly approved by the ITL change manager or by consultations with all the registry representatives. Table 1 provides a list of these change requests.

Table 1

Changes approved for the international transaction log from 1 October 2013 to 30 September 2014

Change title[a]	*Date proposed*	*Status as at 30 September 2014*
RSNCM 53 – IAR documentation update (expedited eligibility)	12 June 2014	Approved
RSNCM 52 – Support for modalities for expediting the establishment of eligibility	23 December 2013	Approved
RSNCM 51 – Modify check 5057 to ensure that a single project is used per conversion	20 January 2014	Approved
RSNCM 50 – Update to the SIAR procedure in preparation for the 2014 assessment cycle	20 December 2013	Approved
RSNCM 38 – Add a project ID check for cancellations of reversal of storage and non-submission of certification reports	25 June 2012	Approved

Abbreviations: IAR = independent assessment report, ID = identification, SIAR = standard independent assessment report.

[a] The documents contain a prefix RSNCM, which refers to registry systems network change management.

D. Independent assessment of national registries and go-live activities

1. Annual assessment activities

39. The process of creating the standard independent assessment report (SIAR), mandated by decision 16/CP.10, paragraph 5(a), expands on the initial independent assessment of national registries. It defines the process to be followed by RSAs when reporting annually on changes in the national registry and providing information on the accounting of Kyoto Protocol units, and guides the activities to be carried out by assessors when reviewing reported changes and accounting information. The final SIARs are forwarded to expert review teams for consideration as part of the review of national registries, as described in decision 22/CMP.1, in accordance with decision 16/CP.10, paragraph 6(k).

40. In accordance with decision 16/CP.10, paragraphs 5(a) and 6(c), the ITL administrator has continued to encourage and promote the engagement of RSAs in the SIAR process, with a view to stimulating the sharing of information on national registry reporting and review, thus improving the quality of national registry information in annual submissions and optimizing the ITL costs. In January 2014, the ITL administrator reissued its invitation to all RSAs to participate in the SIAR process as assessors. Fourteen RSAs contributed to the 2014 SIAR process.

41. Before the registry assessment by the SIAR assessors, the Party submits a national inventory report (NIR) and an SEF report to the secretariat. In 2014, 36 Parties submitted the annual SEF report with information on Kyoto Protocol units for 2013. Three submissions of SEF tables were initially found to be inconsistent with ITL records. Corrections were provided by the Parties concerned and resubmissions were in line with

ITL records. Thirty-six NIRs containing information on changes to the national registry and Kyoto Protocol units assessed under the SIAR process were submitted during 2014.

42. The SIAR process was executed successfully during the reporting period. The following issues regarding the assessed registries were identified:

(a) Some Parties did not fully comply with the requirement to make information publicly accessible as specified in decision 13/CMP.1, annex, paragraphs 44–48;

(b) Some Parties did not fully comply with the requirement found in decision 15/CMP.1, annex, paragraph 32, to provide complete information on changes in the national registry.

43. The issues were addressed in the recommendations provided by the assessors in the final SIARs.

2. Go-live activities

44. In the reporting period, no registry initiated a go-live process. As a result, there was no support for this particular process provided by the ITL administrator. As at 30 September 2014, there were 36 national registries connected to the ITL. The status of the individual registries as at 30 September 2014 is shown in annex I.

E. Registry System Administrators Forum

45. The ITL administrator convenes the RSA Forum to coordinate the technical and management activities of RSAs and to provide a platform for RSAs to cooperate with each other and to provide input to the development of common operational procedures, recommended practices and information-sharing measures for registry systems, in accordance with decision 16/CP.10.

46. Participation in the RSA Forum is open to all administrators of national and consolidated registries, administrators of the CDM registry, the administrator of the supplementary transaction log and ITL vendors. The ITL administrator also invites a number of Parties to the Kyoto Protocol which are not included in Annex I to the Convention to participate.

47. The sixteenth RSA Forum was hosted by the ITL administrator in Bonn, Germany, on 6 and 7 November 2014. The key objectives of the meeting were the following:

(a) To provide RSAs with an update on operational status and issues;

(b) To provide RSAs with training on the DES, the ITL administrator application, testing environments and the common operational procedures;

(c) To inform RSAs about a new version of the ITL and the new SEF reporting software;

(d) To provide feedback on the independent assessment reporting process as executed during the reporting period;

(e) To provide RSAs with an update on the activities and outcomes of the working groups on the second commitment period, security and combating criminal activity in registry systems;

(f) To inform RSAs about the additional period for fulfilling commitments requirements;

(g) For Parties to share their experiences with carbon market development and with registry disaster recovery testing and to seek input for a service benchmarking exercise.

F. Working group on the second commitment period

48. The purpose of the working group on the second commitment period is to assess the impact of decisions made at CMP 7 and CMP 8 on registry systems and the ITL, and to recommend changes to the DES and common operational procedures.

49. In February 2014, the ITL administrator notified RSAs of its decision to produce a draft version of the DES which incorporates the results of the in-session discussion text relating to agenda item 12(a), "Implications of the implementation of decisions 2/CMP.7 to 4/CMP.7 and 1/CMP.8 on the previous decisions on methodological issues related to the Kyoto Protocol, including those relating to Articles 5, 7 and 8 of the Kyoto Protocol", of SBSTA 39 and agenda item 3(a), "Report of the Subsidiary Body for Scientific and Technological Advice", of CMP.9, and to implement this draft version in the ITL.

50. The draft DES is maintained in line with the relevant draft change requests and includes a revised Annex H test suite for the second commitment period.

51. In its notification, the ITL administrator noted that a final DES will be produced once all relevant negotiations are completed by Parties, in particular with regard to carry-over of units and Article 3, paragraph 7 ter, of the Kyoto Protocol.

52. The working group subsequently met to review the new draft DES, and to ensure that the new functionalities do not jeopardize the ability of the national registries and the ITL to process transactions of units applicable to the first commitment period (i.e. that the system is backward compatible). The working group concluded that such backward compatibility would be ensured.

53. The working group also discussed the need for retesting national registries for the second commitment period and concluded that the current process defined in the SIAR is adequate for this purpose.

54. Finally, the working group reviewed the common operational procedure for the true-up period, using the draft SBI 40 conclusions on the date of the completion of the expert review process under Article 8 of the Kyoto Protocol as a basis for its work. During these discussions and at the RSA Forum, some RSAs expressed concern about the 45-day length of the period between the end of the true-up period and the submission of the true-up period report,[5] which they perceive as challenging given the due date of the true-up period report (2 January 2016).

G. Security working group

55. The purpose of the security working group under the RSA Forum is to further elaborate on options for enhancing information security controls in systems supporting emissions trading under the Kyoto Protocol, as requested by SBI 40.[6]

56. The security working group is coordinating a registry-specific risk assessment which will be followed by a security control implementation analysis. Based on the results of this,

[5] The true-up period report, due at the end of the commitment period, is intended to enable the determination of the Party's compliance with its commitment under Article 3, paragraph 1, of the Kyoto Protocol.

[6] FCCC/SBI/2014/8, paragraph 72.

the security working group will identify and prioritize implementation steps, and prepare an implementation plan for further consideration at SBI 42.

57. The security working group identified a need to strengthen its capacity by engaging an external expert with information security skills. This security expert is responsible for identifying methods to support risk assessments, and for planning, preparing and implementing applicable security controls.

H. Working group on combating criminal activity in registry systems

58. Following a request made during the previous RSA Forum, the ITL administrator set up a working group on combating criminal activity in registry systems. The working group established terms of reference for its work, identifying the scope, goals and work areas it should be tasked with.

59. Work has started on identifying the priorities. However, so far, no substantive outcome of the working group has been produced.

III. Organizational arrangements and resources

60. The functions of the ITL administrator have been assumed by the Information Technology Services programme of the secretariat. It is also responsible for the software delivery and information technology infrastructure support for the secretariat. Functions related to change management in registry systems, including the support to negotiations of accounting rules and checks, have been assumed by the Mitigation, Data and Analysis programme.

A. Resources requirements and expenditure

61. The resource requirements for activities relating to the ITL and the ITL administrator, to be funded from supplementary sources for the bienniums 2006–2007,[7] 2008–2009,[8] 2010–2011,[9] 2012–2013[10] and 2014–2015[11] were identified in the proposed programme budget for each of these bienniums.

62. The budget for the ITL for the biennium 2014–2015,[12] not including the deduction of fees paid by Parties, which were not listed in decision 11/CMP.3, annex II, is EUR 5,481,520. This budget includes a working capital reserve equal to EUR 227,970.

63. The CMP, by decision 11/CMP.3, requested the Executive Secretary to provide a breakdown of the expenditures on the development and operation of the ITL with a view to optimizing the cost structure. Table 2 shows the expenditure of the ITL in the biennium 2014–2015 as at 30 September 2014, by object of expenditure.

[7] FCCC/SBI/2005/8/Add.2
[8] FCCC/SBI/2007/8/Add.2
[9] FCCC/SBI/2009/2/Add.3
[10] FCCC/SBI/2011/2/Add.3
[11] FCCC/SBI/2013/6/Add.3
[12] Decision 10/CMP.9

Table 2
Expenditure of the international transaction log for the biennium 2014–2015
(Euros)

Object of expenditure	*As at 30 September 2014*
Staff costs	432 387
Contractual services[a]	1 347 326
Expert groups	15 117
Travel of staff	0
General operating expenses	3 031
Contributions to common services	20 333
Programme support costs	236 365
Total expenditure	**2 054 559**

[a] The amount for contractual services includes EUR 282.787 obligated for contractual services until the end of 2014 but not spent in the first nine months of 2014

64. Table 3 shows the breakdown of expenditure, as expected, for contractors and consultants for the ITL in 2014. Operation services are activities performed by the developer and operator of the ITL to sustain all operations of the ITL such as maintaining the infrastructure and operating the ITL service desk. Software maintenance services are services performed by the developer of the ITL to support the software implementation activities outlined in this report. Operational procedure services cover the expenditure required to deliver services related to the elaboration and execution of the common operational procedures pursuant to decision 16/CMP.10. Consultancy expenditures are incurred when the secretariat needs to consult experts in specific fields.

Table 3
Breakdown of expenditure for contractors and consultants for the international transaction log in 2014

Object of expenditure	*Percentage of expenditure for contractors and consultants*
Operation services	53
Production and disaster recovery environments	38
Service desk	7
Registry developer support	6
Security and disaster recovery testing	2
Software maintenance services	38
Operational procedure services	2
Consultancies	7

65. CMP 4 requested the ITL administrator to report on planned activities and the related resource requirements with a view to ensuring that adequate means are available to perform these activities.[13]

66. In 2014, the focus of activities continued to be to ensure that registry systems operate securely and reliably. In addition, the ITL administrator continued to make

[13] FCCC/KP/CMP/2008/11, paragraph 72.

arrangements for support of the true-up period and for the second commitment period of the Kyoto Protocol by the ITL and registry systems.

67. The staffing level was lower than projected in the ITL budget owing to staff turnover and ongoing recruitment activities. In 2014, the recruitment of an operation lead and a business analyst was completed. The projected level of staffing will stay unchanged in 2015 and the secretariat is making efforts to complete all other outstanding recruitment activities before the end of the year. The level of effort required is expected to remain high owing to the amount of work related to the implementation of the second commitment period of the Kyoto Protocol, the true-up period for the first commitment period and the need to finalize the renewal of technology components from the ITL infrastructure.

68. The members of ITL staff perform the following activities:

(a) Initializing and performing go-live events for the national registries not yet connected to the ITL or potential new national registries;

(b) Supporting future changes to the DES and releases of ITL and SEF software resulting from operational experience and changes adopted under the common operational procedures for change management;

(c) Steering the work of a working group to address technical issues related to the end of the first commitment period of the Kyoto Protocol, the true-up period and the second commitment period of the Kyoto Protocol with a view to adopting revised formats for data exchange and/or common operational procedures;

(d) Steering the work of a working group to improve the security of registry systems based on internationally recognized information system security standards;

(e) Steering the work of a working group to combat fraud and criminal activities in registry systems;

(f) Upgrading the hardware and software in the ITL infrastructure, as necessary;

(g) Administering and maintaining the RSA extranet;

(h) Continuing to support the live operations and test activities of the ITL system and registry systems in all supported environments;

(i) Performing an annual disaster recovery test and security audit on the ITL, and taking into account the results of this test and audit to enhance the reliability and security of the ITL;

(j) Performing all required activities to support the common operational procedures;

(k) Continuing to facilitate cooperation among RSAs through the RSA Forum, its working groups and registry developers;

(l) Offering online and classroom training to RSAs on the general functioning of the ITL and registry systems, the common operational procedures and other relevant knowledge areas;

(m) Continuing to support the obligations of the ITL administrator in accordance with all relevant decisions of the COP and the CMP.

B. Income to support the activities of the administrator of the international transaction log

69. As at 30 September 2014, USD 1,963,788 in ITL user fees had been received from Parties for 2007,[14] USD 4,518,060 for 2008, USD 4,745,041 for 2009, EUR 3,014,423 for 2010, EUR 3,014,423 for 2011, EUR 2,885,010 for 2012, EUR 2,759,483 for 2013 with EUR 125,527 outstanding and EUR 1,988,735 for 2014 with EUR 752,025 outstanding. One Party has already paid the 2015 user fee and several Parties have been credited with advances towards their 2015 user fees as a result of overpayment of the 2014 fee. A total amount of EUR 79,591 has been received for 2015. The secretariat would like to express its gratitude to Parties that have paid their fees. The scale of ITL fees and the status of fee payments for the biennium 2014–2015 as at 30 September 2014 are shown in annex II. The status of fees as at 30 September 2014 is shown in tables 4 and 5.

Table 4

Fees for international transaction log activities in the period 2007–2009 and cumulative shortfall as at 30 September 2014

(United States dollars)

	2007	*2008*	*2009*
Fees budgeted	2 500 000	4 518 060	4 745 741
Fees received	1 963 788	4 518 060	4 745 041
Shortfall	536 212	0	0
Cumulative shortfall	536 212	536 212	536 212

Table 5

Fees for international transaction log activities in the period 2010–2014 and cumulative shortfall as at 30 September 2014

(Euros)

	2010[a]	*2011*	*2012*	*2013*	*2014*[b]
Fees budgeted	3 014 423	3 014 423	2 885 010	2 885 010	2 740 760
Fees received	3 014 423	3 014 423	2 885 010	2 759 483	1 988 735
Shortfall	0	0	0	125 527	752 025
Cumulative shortfall	374 812	374 812	374 812	500 339	1 126 837

[a] The shortfall of 2009 in United States dollars was carried over to 2010 by converting at the average exchange rate of EUR 0.699 applicable on the day of conversion.

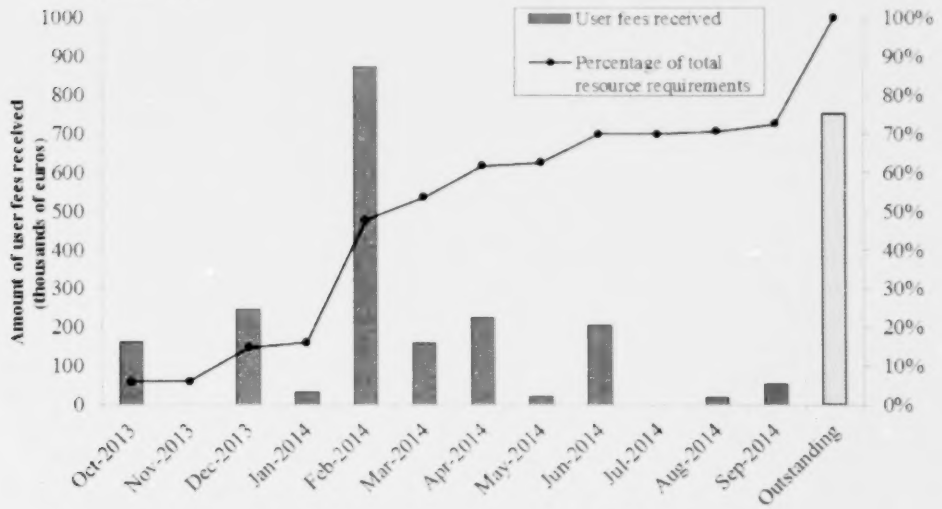
[b] Canada's shortfall of EUR 125,527 is not carried over to 2014 and the following years owing to Canada's withdrawal from the Kyoto Protocol and the resulting disconnection of its registry from the international transaction log.

70. Delays in receiving user fees from Parties had been noted in previous annual reports of the ITL administrator. As at 30 September 2014, EUR 752,025 (27 per cent of the fees budgeted for 2014) was still due. Figure 7 shows the user fees received for 2014 in 2013 and 2014 as at 30 September 2014 and the cumulative percentage of resource requirements, by month.

[14] This figure differs from the one in the annual reports of the ITL administrator prior to 2011 because USD 48,693 in user fees for 2007 was received in July 2011.

Figure 7

International transaction log user fees for 2014 received in 2013 and 2014 as at 30 September 2014



C. Actions and proposals to optimize the cost structure of the international transaction log

71. The ITL administrator is seeking ways to further optimize the ITL cost structure and is currently considering the following measures:

(a) Optimizing technology refresh, licence and third-party support costs in alignment with the natural end of the life cycle of the software and hardware used to run the ITL;

(b) Systematization, documentation and addressing of typical incident, user error and user problem scenarios in order to minimize their reoccurrence and associated remedy costs;

(c) Phasing out of a part of the infrastructure maintained in the secretariat used to test and gain access to the ITL production data. This measure will remove hardware, software and maintenance costs required to operate the above-mentioned part of the infrastructure. Testing of and access to the ITL production data will be ensured through different means;

(d) Using secretariat staff instead of consultants, where possible.

Annex I

Registry status as at 30 September 2014

Registry	*Date independent assessment report was issued*	*Date of live connection to the international transaction log*
Australia	19 December 2008	19 December 2008
Austria	12 July 2007	16 October 2008
Belgium	7 December 2007	16 October 2008
Bulgaria	10 April 2008	16 October 2008
Croatia	30 April 2008	11 December 2009
Clean development mechanism	Not applicable	14 November 2007
Czech Republic	1 August 2007	16 October 2008
Denmark	16 October 2008	16 October 2008
Estonia	12 November 2007	16 October 2008
European Union	1 February 2008	16 October 2008
Finland	16 November 2007	16 October 2008
France	9 November 2007	16 October 2008
Germany	23 November 2007	16 October 2008
Greece	27 September 2007	16 October 2008
Hungary	8 August 2007	11 July 2008
Iceland	3 January 2008	6 May 2010
Ireland	19 September 2007	16 October 2008
Italy	5 December 2007	16 October 2008
Japan	9 July 2007	14 November 2007
Latvia	13 November 2007	16 October 2008
Liechtenstein	7 December 2007	21 October 2008
Lithuania	29 October 2007	16 October 2008
Luxembourg	7 December 2007	16 October 2008
Monaco	9 April 2008	Not available
Netherlands	19 September 2007	16 October 2008
New Zealand	27 July 2007	3 December 2007
Norway	27 September 2007	21 October 2008
Poland	5 December 2007	16 October 2008
Portugal	24 October 2007	16 October 2008
Romania	30 April 2008	16 October 2008
Russian Federation	12 November 2007	4 March 2008
Slovakia	13 September 2007	16 October 2008
Slovenia	25 October 2007	16 October 2008
Spain	8 October 2007	16 October 2008
Sweden	9 November 2007	16 October 2008
Switzerland	8 August 2007	4 December 2007
Ukraine	10 December 2007	28 October 2008
United Kingdom of Great Britain and Northern Ireland	16 August 2007	16 October 2008

Annex II

Scale of fees and status of international transaction log fee payments for the biennium 2014–2015 as at 30 September 2014

Party	Scale of fees	2014			2015		
		Budgeted	Received	Outstanding	Budgeted	Received	Outstanding
Australia	2.841	77 854	77 854	0	77 854	0	77 854
Austria	1.588	43 526	43 483	43	43 526	0	43 526
Belgium	1.973	54 071	54 071	0	54 071	0	54 071
Bulgaria	0.036	974	974	0	974	0	974
Croatia	0.079	2 178	2 178	0	2 178	0	2 178
Czech Republic	0.503	13 783	13 783	0	13 783	0	13 783
Denmark	1.323	36 248	36 248	0	36 248	0	36 248
Estonia	0.028	774	774	0	774	0	774
European Commission	2.685	73 584	73 584	0	73 584	0	73 584
Finland	1.009	27 651	27 651	0	27 651	0	27 651
France	10.667	292 360	0	292 360	292 360	0	292 360
Germany	15.350	420 702	420 702	0	420 702	0	420 702
Greece	1.065	29 199	29 199	0	29 199	199	29 000
Hungary	0.437	11 978	11 978	0	11 978	0	11 978
Iceland	0.737	20 201	20 176	25	20 201	0	20 201
Ireland	0.797	21 835	21 835	0	21 835	21 835	0
Italy	9.089	249 121	0	249 121[a]	249 121	0	249 121
Japan	14.939	409 442	204 721	204 721	409 442	0	409 442
Latvia	0.032	888	888	0	888	177	711
Liechtenstein	0.188	5 158	5 158	0	5 158	0	5 158
Lithuania	0.055	1 519	1 519	0	1 519	302	1 217
Luxembourg	0.153	4 184	4 184	0	4 184	0	4 184
Monaco	0.181	4 957	4 957	0	4 957	0	4 957
Netherlands	3.352	91 866	91 866	0	91 866	18 288	73 578
New Zealand	0.961	26 333	26 321	12	26 333	0	26 321
Norway	2.319	63 555	63 555	0	63 555	12 652	50 903
Poland	0.896	24 557	24 557	0	24 557	0	24 557
Portugal	0.943	25 846	25 846	0	25 846	0	25 846
Romania	0.125	3 439	3 439	0	3 439	0	3 439
Russian Federation	2.743	75 189	75 189	0	75 189	0	75 189
Slovakia	0.113	3 095	3 095	0	3 095	616	2 479
Slovenia	0.171	4 699	4 699	0	4 699	0	4 699
Spain	5.311	145 564	145 564	0	145 564	0	145 564
Sweden	1.917	52 552	52 552	0	52 552	10 462	42 090
Switzerland	2.760	75 647	75 647	0	75 647	15 060	60 587
Ukraine	0.745	20 431	14 688	5 743	20 431	0	20 431
United Kingdom of Great Britain and Northern Ireland	11.887	325 800	325 800	0	325 800	0	325 800
Total	**100.000**	**2 740 760**	**1 988 735**	**752 025**	**2 740 760**	**79 591**	**2 661 157**

[a] Outstanding fee from Italy for 2014 was received on 7 October 2014.

Annex III

Number of transactions proposed to the international transaction log[1] from 1 October 2013 to 30 September 2014

Registry	*Acquisition*[2]	*Transfer*[3]	*Forwarding*[4]	*Internal transfer*[5]	*Issuance*[6]	*Retirement*[7]	*Cancellation*[8]	*Total*
Australia	13	8	0	0	2	0	5	28
Austria	17	8	0	1	0	1	0	27
Belgium	175	18	0	0	0	0	0	193
Bulgaria	2	1	0	0	0	0	0	3
Clean development mechanism	0	70	1 215	0	854	0	94	2 233
Croatia	0	0	0	0	0	0	0	0
Czech Republic	12	7	0	0	0	0	2	21
Denmark	27	31	0	2	0	0	1	61
Estonia	1	3	0	0	0	0	1	5
European Union	1 987	1 636	0	0	0	0	457	4 080
Finland	96	51	0	2	0	0	12	161
France	140	37	0	4	2	0	16	199
Germany	153	73	0	4	2	0	62	294
Greece	12	2	0	0	0	1	0	15
Hungary	0	1	0	0	2	0	0	3
Iceland	10	0	0	0	0	0	0	10
Ireland	10	1	0	0	0	0	0	11
Italy	122	93	0	0	0	4	7	226
Japan	80	60	0	0	0	0	0	140
Latvia	4	11	0	0	0	0	0	15
Liechtenstein	1	1	0	2	0	0	1	5
Lithuania	4	16	0	1	0	0	0	21
Luxembourg	34	3	0	0	0	0	0	37
Netherlands	116	163	0	2	0	3	81	365
New Zealand	230	49	0	0	0	0	69	348
Norway	138	12	0	0	0	0	7	157
Poland	53	11	0	3	3	0	2	72
Portugal	46	13	0	1	0	0	1	61
Romania	0	6	0	0	0	0	0	6
Russian Federation	1	3	0	6	3	0	1	14
Slovakia	5	3	0	1	0	0	1	10
Slovenia	1	1	0	0	0	0	0	2
Spain	138	246	0	85	0	0	7	476
Sweden	104	231	0	100	0	0	61	496
Switzerland	711	1 456	0	1 061	0	0	176	3 404
Ukraine	2	14	0	0	14	0	0	30

[1] Completed transactions of assigned amount units, emission reduction units, removal units, certified emission reductions, long-term emission reductions and temporary emission reductions have been accounted for.

Registry	*Acquisition*[a]	*Transfer*[b]	*Forwarding*[c]	*Internal transfer*[d]	*Issuance*[e]	*Retirement*[f]	*Cancellation*[g]	*Total*
United Kingdom of Great Britain and Northern Ireland	233	409	0	1	0	1	55	699
Total	**4 678**	**4 748**	**1 215**	**1 276**	**882**	**10**	**1 119**	**13 928**

[a] Acquisition from another national registry. See decision 13/CMP.1, annex, paragraph 30.

[b] Transfer to another national registry. See decision 13/CMP.1, annex, paragraph 30.

[c] Forwarding from the clean development mechanism registry to a national registry. See decision 3/CMP.1, annex, paragraph 66(b). Note that this excludes transfers from the clean development mechanism registry to a national registry in support of the Adaptation Fund.

[d] Transfer within the registry. See decision 13/CMP.1, annex, paragraph 30.

[e] See decision 13/CMP.1, annex, paragraphs 23–29; decision 3/CMP.1, annex, paragraphs 64–66; and decision 5/CMP.1, annex, paragraphs 36 and 37. Issuance of emission reduction units by converting assigned amount units or removal units is included.

[f] See decision 13/CMP.1, annex, paragraph 34.

[g] See decision 13/CMP.1, annex, paragraph 33.

Annex IV

Number of Kyoto Protocol units subject to transactions proposed to the international transaction log[1] from 1 October 2013 to 30 September 2014

Registry	*Acquisition*[2]	*Transfer*[3]	*Net transfer*[4]	*Forwarding*[5]	*Internal transfer*[6]	*Issuance*[7]	*Retirement*[8]	*Cancellation*[9]
Australia	726 777	620 094	–106 683	0	0	49 742 309	0	38 811 275
Austria	1 275 245	52 754	–1 222 491	0	10 697 124	0	28 380 771	0
Belgium	5 907 726	3 338 932	–2 568 794	0	0	0	0	0
Bulgaria	21 442	750 000	728 558	0	0	0	0	0
Clean development mechanism	0	4 927 958	4 927 958	47 376 477	0	103 967 819	0	1 231 866
Croatia	0	0	0	0	0	0	0	0
Czech Republic	25 399	30 906	5 507	0	0	0	0	8 157
Denmark	310 180	523 818	213 638	0	21 962	0	0	17 767
Estonia	1 120	2 061 197	2 060 077	0	0	0	0	2 100
European Union	199 996 883	80 252 378	–119 744 505	0	0	0	0	1 941 888
Finland	803 437	1 167 737	364 300	0	4 740	0	0	20 725
France	1 919 228	3 646 240	1 727 012	0	26 290	11 241 834	0	11 415 433
Germany	2 163 247	2 843 680	680 433	0	10 643	13 618	0	1 092 014
Greece	126 061	19 268	–106 793	0	0	0	65 844 741	0
Hungary	0	22 644	22 644	0	0	51 102	0	0
Iceland	12 255	0	–12 255	0	0	0	0	0
Ireland	43 177	3 770	–39 407	0	0	0	0	0
Italy	2 504 584	6 546 158	4 041 574	0	0	0	178 701 164	976
Japan	2 802 506	10 851 894	8 049 388	0	0	0	0	0
Latvia	1 313 847	1 403 094	89 247	0	0	0	0	0
Liechtenstein	36 300	66 300	30 000	0	30 000	0	0	383
Lithuania	82 263	61 493	-20 770	0	91	0	0	0
Luxembourg	1 266 523	80 787	–1 185 736	0	0	0	0	0

[1] Completed transactions of assigned amount units, emission reduction units, removal units, certified emission reductions, long-term emission reductions and temporary emission reductions have been accounted for.

Registry	*Acquisition*[a]	*Transfer*[b]	*Net transfer*[c]	*Forwarding*[d]	*Internal transfer*[e]	*Issuance*[f]	*Retirement*[g]	*Cancellation*[h]
Netherlands	6 391 676	40 057 367	33 665 691	0	157	0	236 321 691	217 412
New Zealand	56 761 605	18 088 048	–38 673 557	0	0	0	0	28 105
Norway	3 382 149	694 360	–2 687 789	0	0	0	0	108 747
Poland	62 707	1 414 339	1 351 632	0	5 543	356 310	0	2
Portugal	289 954	1 397 662	1 107 708	0	54 900	0	0	62 610
Romania	0	63 931	63 931	0	0	0	0	0
Russian Federation	105 443	17 227 084	17 121 641	0	55 226 889	25 297 463	0	24 569 976
Slovakia	894	7 002 697	7 001 803	0	985	0	0	1
Slovenia	1	209	208	0	0	0	0	0
Spain	8 576 592	4 398 181	–4 178 411	0	3 383 591	0	0	6 469
Sweden	2 383 514	9 124 984	6 741 470	0	2 967 864	0	0	64 023
Switzerland	103 779 615	127 665 846	23 886 231	0	74 066 755	0	0	978 928
Ukraine	533 410	13 858 184	13 324 774	0	0	13 858 184	0	0
United Kingdom of Great Britain and Northern Ireland	38 205 090	86 474 814	48 269 724	0	52 247	0	43 858 847	1 105 371
Total	**441 810 850**	**446 738 808**	**4 927 958**	**47 376 477**	**146 549 781**	**204 528 439**	**553 107 214**	**81 684 228**

[a] Acquisition from another national registry. See decision 13/CMP.1, annex, paragraph 30.

[b] Transfer to another national registry. See decision 13/CMP.1, annex, paragraph 30.

[c] Net transfer is equal to transfer minus acquisition.

[d] Forwarding from the clean development mechanism registry to a national registry. See decision 3/CMP.1, annex, paragraph 66(b). Note that this excludes transfers from the clean development mechanism registry to a national registry in support of the Adaptation Fund.

[e] Transfer within the registry. See decision 13/CMP.1, annex, paragraph 30.

[f] See decision 13/CMP.1, annex, paragraphs 23–29; decision 3/CMP.1, annex, paragraphs 64–66; and decision 5/CMP.1, annex, paragraphs 36 and 37. Issuance of emission reduction units by converting assigned amount units or removal units is included.

[g] See decision 13/CMP.1, annex, paragraph 34.

[h] See decision 13/CMP.1, annex, paragraph 33.

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Item 3(a) of the provisional agenda
Reporting from and review of Parties included in Annex I to the Convention
Status of submission and review of sixth national communications and first biennial reports from Parties included in Annex I to the Convention

Status of submission and review of sixth national communications and first biennial reports

Note by the secretariat

1. This note provides information on the status of submission and review of sixth national communications (NC6s) and first biennial reports (BR1s) from Parties included in Annex I to the Convention (Annex I Parties) as at 14 October 2014.

2. The Conference of the Parties (COP), by decisions 9/CP.16, paragraph 5, and 2/CP.17, paragraph 13, requested Annex I Parties to submit their NC6s and BR1s, respectively, by 1 January 2014.

3. In addition, the COP, by decision 2/CP.17, paragraph 12, adopted the "UNFCCC biennial reporting guidelines for developed country Parties", noting that developed country Parties shall use the reporting guidelines for the preparation of their biennial reports (BRs). By decision 19/CP.18, paragraph 1, it also adopted the common tabular format (CTF) for those guidelines and decided that developed country Parties shall use the format when preparing and submitting their BRs in accordance with decision 2/CP.17.

4. By decision 7/CMP.8, the Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol (CMP) requested Annex I Parties that are also Parties to the Kyoto Protocol to include, in their NC6s, the necessary supplementary information required by the "Guidelines for the preparation of the information required under Article 7 of the Kyoto Protocol" (contained in the annex to decision 15/CMP.1).

5. At the time of the preparation of this note, the secretariat had received NC6s from all 44 Annex I Parties. A total of 26 Annex I Parties submitted their NC6s before the due date of submission in accordance with decision 9/CP.16, while 18 Annex I Parties submitted their NC6s after that date (12 of which submitted them within six weeks after that date). All

national communications (NCs) received have been posted on the UNFCCC website.[1] The dates of submission are presented in the table below.

6. At the time of the preparation of this note, the secretariat had received 42 BR1s and 44 sets of CTF tables.[2] A total of 21 Annex I Parties submitted their BR1s and 19 Annex I Parties submitted their CTF tables before the due date of submission in accordance with decision 2/CP.17, while 21 Annex I Parties submitted their BR1s and 24 Annex I Parties submitted their CTF tables after that date (14 of which submitted their BR1s and 13 of which submitted their CTF tables within six weeks after that date). The textual parts of the BR1s of Kazakhstan and Turkey, as well as Turkey's CTF tables, have not been submitted. All BR1s and CTF tables received have been posted on the UNFCCC website.[3] The dates of submission of the BR1s and the CTF tables are presented in the table below.

7. The COP, by decision 23/CP.19, adopted the "Guidelines for the technical review of information reported under the Convention related to greenhouse gas inventories, biennial reports and national communications by Parties included in Annex I to the Convention" and decided to use these guidelines for the review of BR1s and NC6s starting in 2014 and for subsequent reviews of BRs and NCs until any revisions are decided upon by the COP. The review guidelines state that, in the years in which NCs and BRs are submitted together, both will be subject to an in-country review. They also state that a BR shall be reviewed in conjunction with its NC in the years in which both the BR and the NC are submitted.

8. The "Guidelines for review under Article 8 of the Kyoto Protocol" (contained in the annex to decision 22/CMP.1) specify that each NC submitted by an Annex I Party that is also a Party to the Kyoto Protocol shall be subject to a scheduled in-country in-depth review. By decision 9/CMP.9, the CMP requested the secretariat to organize centralized reviews of NC6s for Parties with total greenhouse gas emissions of less than 50 Mt carbon dioxide equivalent (excluding land use, land-use change and forestry) in accordance with their most recent greenhouse gas inventory submission, with the exception of Parties included in Annex II to the Convention, for which the secretariat will organize in-country in-depth reviews.

9. As at 14 October 2014, the secretariat had coordinated 28 in-country in-depth reviews of NC6s and the technical reviews of BR1s for Australia, Austria, Canada, the Czech Republic, Denmark, the European Union, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Japan, Luxembourg, the Netherlands, New Zealand, Norway, Poland, Portugal, Romania, the Russian Federation, Spain, Sweden, Switzerland, the United Kingdom of Great Britain and Northern Ireland and the United States of America. In accordance with the provision of decision 9/CMP.9 mentioned in paragraph 8 above, centralized reviews of NC6s and BR1s were coordinated by the secretariat for 10 Parties: Croatia, Cyprus, Estonia, Latvia, Liechtenstein, Lithuania, Malta, Monaco, Slovakia and Slovenia. In-country reviews of the submissions of another three Parties have been scheduled for later in 2014 and in-country reviews of the submissions of the Parties which are yet to make complete submissions or have indicated their plans for resubmission

[1] <http://unfccc.int/national_reports/annex_i_natcom/submitted_natcom/items/7742.php>.

[2] The European Union (EU) submitted two sets of CTF tables, for the EU-28 (the 28 member States of the EU) and the EU-15 (the 15 member States that formed the European Community at the time of ratification of the Kyoto Protocol).

[3] <http://unfccc.int/national_reports/biennial_reports_and_iar/submitted_biennial_reports/items/7550.php>.

of their NC have been scheduled for early 2015.[4] The dates of the reviews are presented in the table below.

10. As at 14 October 2014, 18 reports of the in-depth review of NC6s and 18 reports on the technical review of BR1s have been published[5] (see the table below). Seventeen Annex I Parties are planned for multilateral assessment in a working group session under the Subsidiary Body for Implementation (SBI) at its forty-first session. Review reports of all remaining Annex I Parties except for Belarus, Kazakhstan and Turkey are planned to be ready for multilateral assessment in a working group session at SBI 42.[6]

[4] These three Parties are Belarus, Turkey and Kazakhstan. The reviews of their submissions were scheduled for 2015 for the following reasons: the textual parts of the BR1s of Kazakhstan and Turkey, as well as Turkey's CTF tables, have not been submitted. Belarus indicated its intention to resubmit its NC6 in February 2015.

[5] <http://unfccc.int/national_reports/annex_i_natcom/submitted_natcom/items/8445.php> and <http://unfccc.int/national_reports/biennial_reports_and_iar/technical_reviews/items/8446.php>.

[6] The publication of the review reports of the remaining Parties in due time for their consideration in the working group session under SBI 42 is subject to timely input from the experts engaged in the reviews and timely provision of comments by the Parties on the draft review reports.

Dates of submission of sixth national communications and first biennial reports and status of review reports, as at 14 October 2014

Annex I Party	*National communication received (date)*	*Biennial report received (date)*	*Common tabular format tables received (date)*	*Language of submissions*	*Dates of review week*	*Status of review reports*	*Document symbol*
Australia	5 Aug. 2013	5 Aug. 2013	16 Jan. 2014	English	7–12 Oct. 2014	Under preparation	–
Austria	10 Feb. 2014	27 Feb. 2014	27 Feb. 2014	English	31 Mar. to 5 Apr. 2014	Published	FCCC/IDR.6/AUT FCCC/TRR.1/AUT
Belarus	31 Dec. 2013	14 Jan. 2014	30 Dec. 2013	Russian	To be reviewed in 2015	–	–
Belgium	20 Dec. 2013	12 Feb. 2014	12 Feb. 2014	English	3–8 Nov. 2014	–	–
Bulgaria	30 Dec. 2013	30 Dec. 2013	30 Dec. 2013	English	20–25 Oct. 2014	–	–
Canada	20 Dec. 2013 2 Apr. 2014	20 Dec. 2013	31 Dec. 2013	English and French	6–11 Oct. 2014	Under preparation	–
Croatia	12 Feb. 2014	12 Feb. 2014	12 Feb. 2014	English	5–10 May 2014	Published	FCCC/IDR.6/HRV FCCC/TRR.1/HRV
Cyprus	31 Dec. 2013	31 Dec. 2013	31 Dec. 2013	English	5–10 May 2014	Published	FCCC/IDR.6/CYP FCCC/TRR.1/CYP
Czech Republic	31 Jan. 2014	31 Jan. 2014	31 Jan. 2014	English	7–12 Apr. 2014	Under preparation	–
Denmark	3 Jan. 2014	3 Jan. 2014	7 Jan. 2014	English	17–22 Mar. 2014	Published	FCCC/IDR.6/DNK FCCC/TRR.1/DNK
Estonia	31 Dec. 2013	31 Dec. 2013	31 Dec. 2013	English	5–10 May 2014	Under preparation	–
European Union (28)[a]	13 Jan. 2014	13 Jan. 2014	13 Jan. 2014	English	24–29 Mar. 2014	Published	FCCC/IDR.6/EU FCCC/TRR.1/EU
European Union (15)[a]	–	–	15 Jan. 2014	–	24–29 Mar. 2014	–	–
Finland	30 Dec. 2013	30 Dec. 2013	30 Dec. 2013	English	7–12 Apr. 2014	Published	FCCC/IDR.6/FIN FCCC/TRR.1/FIN
France	25 Oct. 2013	31 Dec. 2013	27 Dec. 2013	French, with English abstract	7–12 Apr. 2014	Published	FCCC/IDR.6/FRA FCCC/TRR.1/FRA
Germany	20 Dec. 2013	20 Dec. 2013	20 Dec. 2013	English	6–11 Oct. 2014	Under preparation	–

Annex I Party	*National communication received (date)*	*Biennial report received (date)*	*Common tabular format tables received (date)*	*Language of submissions*	*Dates of review week*	*Status of review reports*	*Document symbol*
Greece	31 Dec. 2013	31 Dec. 2013	31 Dec. 2013	English	29 Sept. to 4 Oct. 2014	Under preparation	–
Hungary	8 Jan. 2014	8 Jan. 2014	2 Jan. 2014	English	23–28 June 2014	Under preparation	–
Iceland	7 Mar. 2014	7 Mar. 2014	7 Mar. 2014	English	25–30 Aug. 2014	Under preparation	–
Ireland	7 Mar. 2014	7 Mar. 2014	20 Feb. 2014	English	19–24 May 2014	Under preparation	–
Italy	12 Feb. 2014	12 Feb. 2014	10 Feb. 2014	English	7–12 Apr. 2014	Published	FCCC/IDR.6/ITA FCCC/TRR.1/ITA
Japan	27 Dec. 2013	27 Dec. 2013	27 Dec. 2013	English	6–11 Oct. 2014	Under preparation	–
Kazakhstan (NC3, 4, 5 and 6)	24 Dec. 2013	Not yet received	26 Feb. 2014	English and Russian	To be reviewed in 2015	–	–
Latvia	29 Dec. 2013	29 Dec. 2013	29 Dec. 2013	English	5–10 May 2014	Published	FCCC/IDR.6/LVA FCCC/TRR.1/LVA
Liechtenstein	23 Dec. 2013	23 Dec. 2013	23 Dec. 2013	English	5–10 May 2014	Under preparation	–
Lithuania	10 Jan. 2014	10 Jan. 2014	10 Jan. 2014	English	5–10 May 2014	Published	FCCC/IDR.6/LTU FCCC/TRR.1/LTU
Luxembourg	21 Jan. 2014	21 Jan. 2014	22 Feb. 2014	English	24 Feb. to 1 Mar. 2014	Published	FCCC/IDR.6/LUX FCCC/TRR.1/LUX
Malta	9 Apr. 2014	9 Apr. 2014	9 Apr. 2014	English	5–10 May 2014	Under preparation	–
Monaco	4 Apr. 2014	14 Apr. 2014	7 Apr. 2014	French	5–10 May 2014	Under preparation	–
Netherlands	30 Dec. 2013	31 Dec. 2013	31 Dec. 2013	English	24 Feb. to 1 Mar. 2014	Published	FCCC/IDR.6/NLD FCCC/TRR.1/NLD
New Zealand	12 Dec. 2013	13 Dec. 2013	13 Dec. 2013	English	24 Feb. to 1 Mar. 2014	Published	FCCC/IDR.6/NZL FCCC/TRR.1/NZL
Norway	10 Mar. 2014	10 Mar. 2014	10 Mar. 2014	English	6–11 Oct. 2014	Under preparation	–
Poland	7 Feb. 2014	7 Feb. 2014	7 Feb. 2014	English	8–13 Sept. 2014	Under preparation	–
Portugal	31 Dec. 2013	31 Dec. 2013	6 Mar. 2014	English	7–12 Apr. 2014	Published	FCCC/IDR.6/PRT FCCC/TRR.1/PRT

Annex I Party	*National communication received (date)*	*Biennial report received (date)*	*Common tabular format tables received (date)*	*Language of submissions*	*Dates of review week*	*Status of review reports*	*Document symbol*
Romania	19 Dec. 2013	19 Dec. 2013	19 Dec. 2013	English	23–28 June 2014	Under preparation	–
Russian Federation	30 Dec. 2013	11 Feb. 2014	17 Feb. 2014	Russian	6–11 Oct. 2014	Under preparation	–
Slovakia	2 Jan. 2014	2 Jan. 2014	22 Jan. 2014	English	5–10 May 2014	Under preparation	–
Slovenia	17 Apr. 2014	17 Apr. 2014	28 Mar. 2014	English	5–10 May 2014	Under preparation	–
Spain	20 Dec. 2013	19 Dec. 2013	19 Dec. 2013	Spanish	5–10 May 2014	Published	FCCC/IDR.6/ESP FCCC/TRR.1/ESP
Sweden	20 Dec. 2013	20 Dec. 2013	20 Dec. 2013	English	7–12 Apr. 2014	Published	FCCC/IDR.6/SWE FCCC/TPR.1/SWE
Switzerland	3 Feb. 2014	3 Feb. 2014	3 Feb. 2014	English	7–12 Apr. 2014	Published	FCCC/IDR.6/CHE FCCC/TRR.1/CHE
Turkey (NC5)	17 Dec. 2013	Not yet received	Not yet received	English	To be reviewed in 2015	–	–
Ukraine	30 Dec. 2013	30 Dec. 2013	30 Dec. 2013	Russian	27 Oct. to 1 Nov. 2014	–	–
United Kingdom	20 Dec. 2013	20 Dec. 2013	12 Feb. 2014	English	15–20 Sept. 2014	Under preparation	–
United States of America	1 Jan. 2014	1 Jan. 2014	1 Jan. 2014	English	24 Feb. to 1 Mar. 2014	Published	FCCC/IDR.6/USA FCCC/TRR.1/USA

Abbreviation: NC = national communication.

[a] The table specifies the dates of the review of the sixth national communications and first biennial reports only for those Parties with which the dates had been agreed by the time of the preparation of this note. The planning of the remaining reviews is in progress.

[b] EU 28 refers to the 28 member States of the European Union (EU); EU 15 refers to the 15 member States of the EU prior to the EU enlargement in 2004. The EU 15 comprised the following countries: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain, Sweden and the United Kingdom.

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Compilation and synthesis of sixth national communications and first biennial reports from Parties included in Annex I to the Convention

Compilation and synthesis of sixth national communications and first biennial reports from Parties included in Annex I to the Convention

Executive summary

Note by the secretariat

Summary

This document contains a summary of the information presented in the compilation and synthesis report of the sixth national communications and first biennial reports submitted to the secretariat by Parties included in Annex I to the Convention. It provides information on a range of issues relating to the implementation of the Convention, such as: national circumstances; greenhouse gas emission trends; projections and estimates of the total effect of policies and measures; policies and measures; quantified economy-wide emission reduction targets and progress towards their achievement; the provision of financial, technological and capacity-building support to developing country Parties; vulnerability assessment, climate change impacts and adaptation measures; research and systematic observation; and education, training and public awareness.

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I. Mandate and approach

1. Article 4, paragraphs 1 and 2, and Article 12 of the Convention require Parties included in Annex I to the Convention (Annex I Parties) to communicate information periodically to the Conference of the Parties (COP). The COP, by decisions 9/CP.16 and 2/CP.17, requested Annex I Parties to submit their sixth national communications (NC6s) and first biennial reports (BR1s) by 1 January 2014. In accordance with decisions 11/CP.4, 4/CP.5 and 4/CP.8, Annex I Parties should use the "Guidelines for the preparation of national communications by Parties included in Annex I to the Convention, Part II: UNFCCC reporting guidelines on national communications" (hereinafter referred to as the UNFCCC reporting guidelines on NCs) for the preparation of their national communications under the Convention. In accordance with decision 2/CP.17, Annex I Parties should use the "UNFCCC biennial reporting guidelines for developed country Parties" (hereinafter referred to as the UNFCCC reporting guidelines on BRs) for the preparation of their first biennial reports.

2. The COP, by decisions 22/CP.19 and 2/CP.17, requested the secretariat to prepare compilation and synthesis reports on the NC6s and BR1s, respectively. This document responds to those requests. Owing to the broad overlap between the UNFCCC reporting guidelines on NCs and those on biennial reports (BRs), and in line with decision 23/CP.19, in which it is specified that the same information submitted by an Annex I Party in its biennial report, national communication and greenhouse gas (GHG) inventory will be reviewed only once, this compilation and synthesis covers all of the information contained in both the NC6s and the BR1s of 43 Annex I Parties (42 countries[1] and the European Union (EU)) and of Kazakhstan.[2] Information on the status of the submissions is contained in document FCCC/SBI/2014/INF.19.

3. The compilation and synthesis report comprises three separate documents. The main report, which includes information on all reporting elements following the UNFCCC reporting guidelines on NCs and BRs, is published in two parts: document FCCC/SBI/2014/INF.20/Add.1 contains a synthesis of the reported information on national circumstances, GHG inventories, emission projections, quantified economy-wide emission reduction targets and progress in their achievement, policies and measures (PaMs), and the provision of financial, technological and capacity-building support to developing country Parties; and document FCCC/SBI/2014/INF.20/Add.2 contains a synthesis of the reported information relating to vulnerability assessment, climate change impacts and adaptation measures, research and systematic observation, and education, training and public awareness. The present document is an executive summary of the information contained in those two documents.

4. Each of the documents referred to in paragraph 3 above can be read as a stand-alone paper. When appropriate, cross references are made to avoid repetition. All references to Parties in the documents are to Annex I Parties, unless otherwise indicated.

[1] This includes Turkey, which submitted its fifth national communication on 17 December 2013.

[2] Kazakhstan is not included in Annex I to the Convention, but in accordance with the conclusions of COP 12 (FCCC/CP/2006/5), submitted its NC6 in accordance with Article 4, paragraph 2(b), and Article 12 of the Convention, using the UNFCCC reporting guidelines on NCs. Kazakhstan has also voluntarily undertaken additional obligations in accordance with Article 4, paragraph 2(b), of the Convention.

II. Executive summary

A. National circumstances and greenhouse gas emission trends

5. Total aggregate GHG emissions excluding emissions and removals from land use, land-use change and forestry (LULUCF) for all Annex I Parties taken together decreased from 19.1 to 17.0 thousand megatonnes of carbon dioxide equivalent (Mt CO_2 eq), a **decline of 10.6 per cent,**[1] **in the period 1990–2012** (see the table and figure 1).[2]

6. The 10.6 per cent decline in Annex I Parties' total emissions can be attributed to several factors over three distinct periods:

(a) In the period 1990–2000, there was a 6.7 per cent drop in GHG emissions, owing mainly to the **transition to a market economy occurring in Annex I Parties with economies in transition (EIT Parties)** and the resulting drop in gross domestic product (GDP) and energy use, as well as to the adoption of more efficient technologies. The decrease in EIT Parties' emissions more than offset the emission increases of those Parties that do not have economies in transition (non-EIT Parties);

(b) In the period 2000–2007, there was a 3.4 per cent increase in emissions, owing to a combination of **strong economic growth in many EIT Parties, slower economic growth in non-EIT Parties** and the effect of the implementation of mitigation PaMs in the early 2000s;

(c) In the period 2007–2012, there was a 7.3 per cent drop in emissions, owing to the **global financial and economic crisis**, which led to a **decline in energy use;** the **implementation of new and strengthened PaMs;** and **autonomous technological improvements and behavioural changes**.

Percentage changes in Annex I Parties' total aggregate anthropogenic greenhouse gas emissions and gross domestic product

	Excluding emissions/removals from LULUCF				*Including emissions/removals from LULUCF*				*GDP*[c]
Party	*1990*[b]*–2000*	*2000–2007*	*2007–2012*	*1990*[b]*–2012*	*1990*[b]*–2000*	*2000–2007*	*2007–2012*	*1990*[b]*–2012*	*1990*[b]*–2012*
All Annex I Parties	–6.7	3.4	–7.3	–10.6	–10.4	2.4	–8.7	–16.2	51.2
EIT Parties	–41.4	7.1	–1.4	–38.1	–51.3	5.3	–1.9	–49.7	25.8
Non-EIT Parties	9.1	2.4	–8.8	1.9	9.8	1.8	–10.2	0.3	55.3

Abbreviations: EIT = economies in transition, GDP = gross domestic product, LULUCF = land use, land-use change and forestry

[a] GDP (billions of 2005 USD) using purchasing power parity

[b] Calculations use 1990 data for all Parties, except for those for which the base year is defined by decisions 9/CP.2 and 11/CP.4: Bulgaria (1988), Hungary (average of 1985–1987), Poland (1988), Romania (1989) and Slovenia (1986).

7. The levels of GHG emissions per unit of GDP (emission intensity) and GHG emissions per capita have pursued their downward trend but continue to vary significantly

[1] The percentage changes given in this chapter were calculated using the exact (not rounded) values and therefore may differ from the sums or ratios calculated with rounded numbers provided in document FCCC/SBI/2014/INF.20/Add.1.

[2] While in their NC6s and BR1s Parties reported GHG inventory data for 2011, as this was the most recent year for which data were available at the time of preparation of NC6s and BR1s, this document relies on the most recent inventory data available at the time of its preparation – for year 2012.

across Annex I Parties. During the 1990–2012 period, while Annex I Parties' total emissions (excluding LULUCF) fell by 10.6 per cent, population and GDP grew by 10.4 per cent and 51.2 per cent, respectively. This resulted in **falls in emissions per capita and emission intensity of the economy in Annex I Parties over that period of 15.2 per cent and 35.5 per cent, respectively**. The extent of the decoupling of emissions from population and GDP growth was greater for EIT Parties (33.0 per cent decline in emissions per capita and 46.4 per cent decline in emission intensity), although a considerable decoupling for non-EIT Parties also occurred (8.6 per cent decline in emissions per capita and 33.7 per cent decline in emission intensity).

8. Significantly, some non-EIT Parties have **managed to reduce emissions despite strong economic growth**. Belgium, Denmark, the EU and its 15 member States,[3] Finland, France, Germany, Luxembourg, the Netherlands, Sweden and the United Kingdom of Great Britain and Northern Ireland succeeded in keeping their total GHG emissions (excluding LULUCF) in 2012 below their 1990 levels while each experiencing GDP growth of over 38 per cent. Of those non-EIT Parties, **Denmark, Germany, Sweden and United Kingdom succeeded in reducing their emissions by at least 20 per cent below their 1990 levels**. While various factors contributed to this result, considerable credit is due to their implementation of effective PaMs, which mainly promote energy efficiency, renewable energy sources (RES) and fuel switching.

9. Putting these successes into context, **Annex I Parties' share of RES in total primary energy supply (TPES) increased by 62.1 per cent over the period 1990–2012**, from 5.2 per cent to 8.4 per cent. For EIT Parties, the share of RES in TPES increased from 2.4 per cent in 1990 to 4.7 per cent in 2012, a 92.2 per cent increase over the period. For non-EIT Parties, the share of RES in TPES increased from 6.2 per cent to 9.3 per cent between 1990 and 2012, an increase of 50.8 per cent. Consequently, **between 1990 and 2012**, the **carbon intensity of energy use** (energy-related GHG emissions[4] divided by TPES) in **Annex I Parties decreased by 6.5 per cent**. In 1990, EIT Parties' energy use was 16.6 per cent more carbon-intensive than that of non-EIT Parties, while in 2012 the carbon intensity of energy use of EIT (2,508.75 kg CO_2 eq/toe) and non-EIT Parties (2,429.04 kg CO_2 eq/toe) was nearly equal.

10. Finally, while **between 1990 and 2012** TPES in Annex I Parties increased by 2.5 per cent, **TPES per unit of GDP (energy intensity of the economy) dropped by 28.0 per cent**, from 0.23 toe per thousand USD in 1990 to 0.15 toe per thousand USD in 2012. For EIT Parties, TPES per unit of GDP dropped by 34.6 per cent over the period 1990–2012 (from 0.43 to 0.26 toe per thousand USD). For non-EIT Parties, TPES per unit of GDP dropped by 27.0 per cent over the same period (from 0.18 to 0.13 toe per thousand USD).

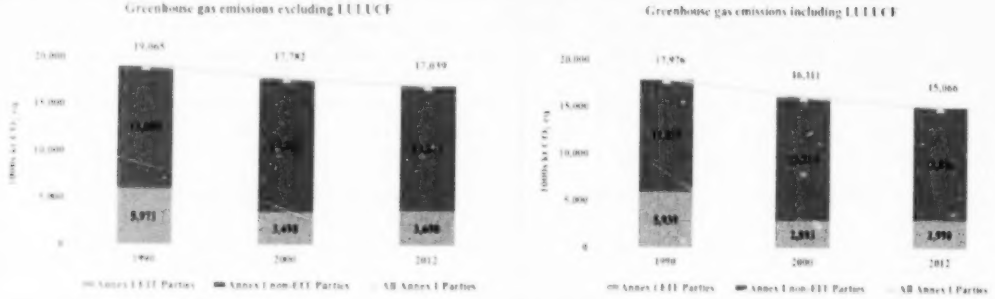
11. Annex I Parties' **emissions of each of the GHGs, except hydrofluorocarbons (HFCs), declined during the 1990–2012 period** (see figure 2). Total emissions of perfluorocarbons (PFCs) declined the most – by 79.0 per cent, followed by sulphur hexafluoride (SF_6) – by 62.2 per cent, nitrous oxide (N_2O) – by 25.3 per cent, methane (CH_4) – by 19.6 per cent and carbon dioxide (CO_2) – by 8.7 per cent. **Conversely, emissions of HFCs increased by 175.8 per cent**, owing mainly to the increase in the use of HFCs as a substitute for ozone-depleting substances controlled by the Montreal Protocol (see figure 2).

[3] The European Union and its 28 member States includes many Parties with economies in transition.

[4] Here, "energy-related GHG emissions" means emissions from the energy sector as reported in the 2014 national inventory submissions.

Figure 1

Greenhouse gas emissions of Annex I Parties, 1990, 2000 and 2012

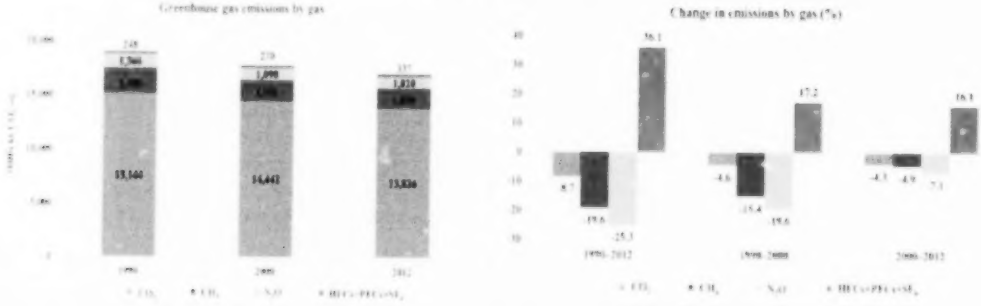


Abbreviations: EIT Parties = Parties with economies in transition, LULUCF = land use, land-use change and forestry, non-EIT Parties = Parties that do not have economies in transition.

12. As a result of the trends referred to in paragraph 11 above, the **shares of the individual GHGs in the total emissions shifted slightly in the 1990–2012** period. CO_2 continued to contribute the largest share of the total emissions, accounting for 81.1 per cent in 2012 (79.4 per cent in 1990), while CH_4 and N_2O contributed 10.9 per cent and 6.0 per cent, respectively, to the total emissions in 2012 (12.1 per cent and 7.2 per cent, respectively, in 1990). Emissions of PFCs and SF_6 taken together accounted for a share of approximately 0.7 per cent in 2012 (0.2 per cent in 1990). Emissions of HFCs accounted for approximately 1.7 per cent in 2012 (0.6 per cent in 1990).

Figure 2

Greenhouse gas emissions of Annex I Parties, by gas



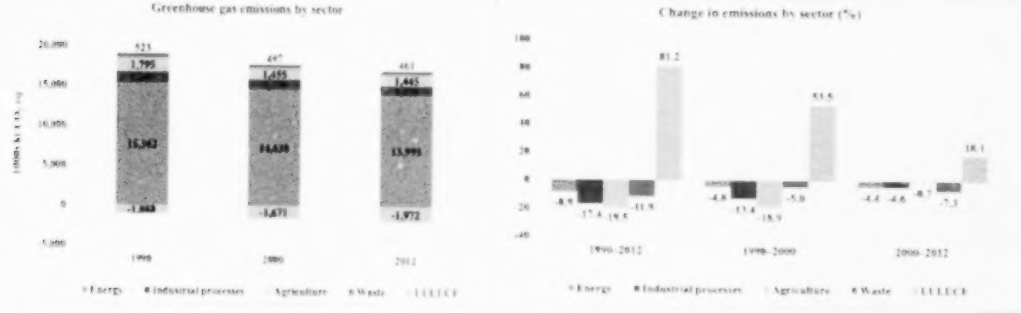
13. **Emissions from all sectors decreased between 1990 and 2012** (see figure 3). The greatest decrease occurred in agriculture (–19.5 per cent), which reflects the drop in emissions of CH_4 and N_2O. Nearly all of the decrease in emissions from agriculture occurred in the period 1990–2000 (–18.9 per cent). Emissions from industrial processes underwent the second-largest decrease in the period 1990–2012 (–17.4 per cent), followed by waste (–11.9 per cent) and energy (–8.9 per cent). **Net GHG removals from LULUCF increased by 81.2 per cent**.

14. The **decline in emissions from the energy sector during the 1990–2012 period resulted from emission reductions in all energy subsectors, except transportation**, where emissions increased by 10.4 per cent over that period. It is worth noting that emissions from transportation rose progressively until 2007, but decreased considerably

after that (see para. 6 above). As a result, **emissions from transportation in 2012 were at a slightly lower level than in 2000**. Emissions from the other energy subsectors decreased as follows: –22.5 per cent for manufacturing industries and construction; –20.8 per cent for other sectors (residential and commercial); –17.3 per cent for fugitive emissions from fuels; and –3.0 per cent for energy industries (primarily electricity and heat production). As in previous national communications, in their NC6s many Parties identified limiting growth in emissions from transportation as the main challenge in their climate change mitigation PaMs.

Figure 3

Greenhouse gas emissions and removals of Annex I Parties, by sector[a]



Abbreviation: LULUCF = land use, land-use change and forestry

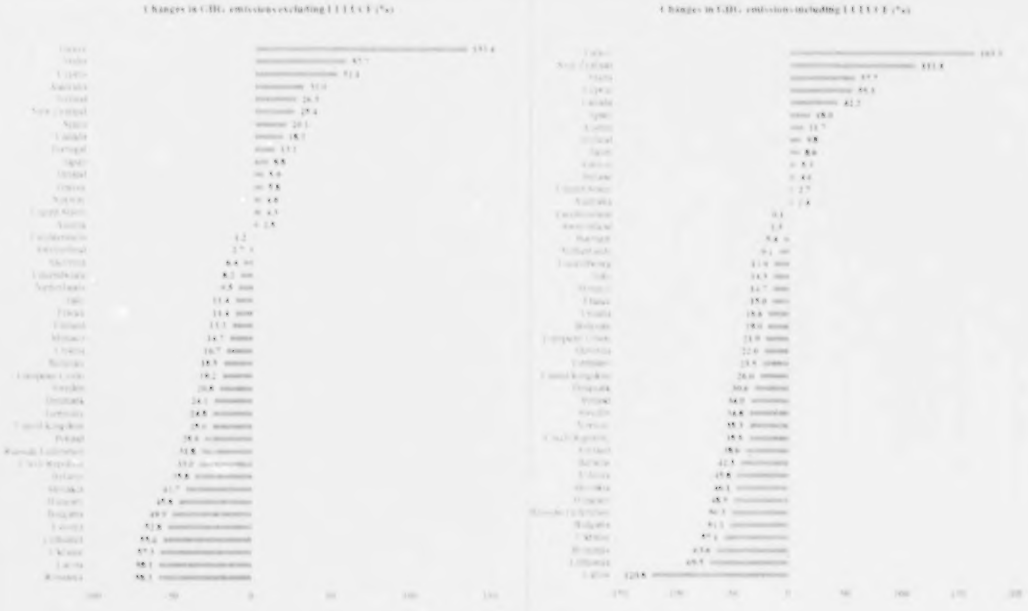
[a] The solvent and other product use sector is not included in the figure because its contribution to total greenhouse gas emissions is very small.

15. The changes in the total aggregate GHG emissions over the period 1990–2012 again varied considerably across Parties (see figure 4). Emissions excluding LULUCF increased in 9 Parties by more than 10.0 per cent and decreased in 23 Parties (including the EU and its 28 member States) by more than 10.0 per cent. Most of the latter Parties are EIT Parties; nine are non-EIT Parties, namely Germany, Monaco, Sweden and United Kingdom,[7] which have continued this level of performance since their fifth national communications (NC5s), and Belgium, Denmark, Finland, France and Italy, which have recently achieved this level of performance according to their NC6s and BR1s. If LULUCF is included, Luxembourg and Norway's levels of emissions in 2012 were lower by at least 10.0 per cent than their 1990 levels. Total aggregate GHG emissions including LULUCF over the period 1990–2012 increased in 13 Parties and decreased in 30 Parties.

[7] The EU and its 28 member States, which reduced their GHG emissions by 19.2 per cent over the period 1990–2012, are not counted as they include EIT Parties.

Figure 4

Changes in the total aggregate emissions of individual Annex I Parties, 1990–2012



Abbreviations: GHG = greenhouse gas, LULUCF = land use, land-use change and forestry

B. Projections and the total effect of policies and measures[8]

16. Annex I Parties' projections for the 'with measures' scenario indicate that their total **GHG emissions are projected to decrease by 9.7 per cent by 2020** compared with the 1990 level. This result differs sharply from the projections reported in the NC5s,[9] where emissions were reported to be expected to increase (by 0.6 per cent) over the same period. Total GHG emissions in 2030 are projected to be 7.4 per cent below the 1990 level, because **between 2020 and 2030 emissions are projected to increase by 2.6 per cent if no additional measures are implemented**. Compared with in 2010, GHG emissions by 2020 are projected to have increased by 0.2 per cent, while emissions by 2030 are projected to be 2.9 per cent higher than in 2010. This is projected to be **driven by the continuous small growth in the emissions of EIT Parties** since around 2000, following economic recovery, while the emissions of non-EIT Parties are projected to remain broadly stable (see figure 5).

[8] The various projections presented in this section are not fully comparable and should be interpreted with caution. All of the 41 Parties that provided information in their NC 6s and BR1s reported projections for the 'with measures' scenario for 2020, while only 35 Parties reported similar data for 2030. Some 26 Parties provided projections for the 'with additional measures' scenario. The EU provided projections in its BR1, but the figures are not included in the totals in this document in order to avoid double counting. At the time of the preparation of this document, Turkey had submitted only its NC5, which did not contain data on GHG emission projections. See document FCCC/SBI/2014/INF.20/Add.1, chapter IV, for more information.

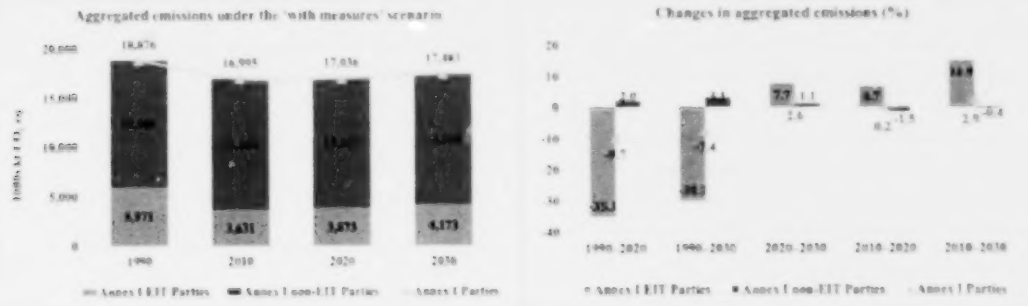
[9] See document FCCC/SBI/2011/INF.1/Add.1, chapter IV.

17. The GHG emissions of EIT Parties are projected to decrease significantly over the periods 1990–2020 and 1990–2030 (by 35.1 per cent and 30.1 per cent, respectively). However, that overall decrease masks a projected increase in the emissions of EIT Parties by 6.7 per cent by 2020 and by 14.9 per cent by 2030 compared with the 2010 level. The total GHG emissions of EIT Parties initially dropped sharply in the period 1990–2000 (see paras. 6–8 above), which was followed by a growth in emissions during the period 2000–2012 owing to the strong economic growth in many EIT Parties, a trend that is projected to persist until 2030, although at a lower rate.

18. For non-EIT Parties, modest growth in emissions is projected for both periods 1990–2020 (by 2.0 per cent) and 1990–2030 (by 3.1 per cent). Compared with in 2020, emissions by 2030 are projected to have increased slightly, by 1.1 per cent. On the other hand, emissions by both 2020 and 2030 are projected to have decreased slightly compared with in 2010 (by 1.5 per cent and 0.4 per cent, respectively), which to some extent can be attributed to the effect of PaMs.

Figure 5

Projected greenhouse gas emissions excluding land use, land-use change and forestry in 2020 and 2030 under the 'with measures' scenario



Abbreviations: EIT Parties = Parties with economies in transition, non-EIT Parties = Parties that do not have economies in transition

19. Regarding Annex I Parties' sectoral projections for 2020, the **energy sector (including transport) is projected to continue being the dominant source** (accounting for 83.3 per cent of the total) of GHG emissions in 2020. Emissions from the energy sector (excluding transport) are projected to decrease by 10.0 per cent, from 11.3 thousand Mt CO_2 eq in 1990 to 10.2 thousand Mt CO_2 eq in 2020. GHG emissions from transportation are also projected to decrease, by 9.6 per cent, from 3.0 thousand Mt CO_2 eq in 1990 to 2.7 thousand Mt CO_2 eq in 2020. Such trends are in contrast to the projections provided in the NC5s, in which emissions from the energy sector were projected to increase by 0.4 per cent by 2020. Over the period **2010–2020, according to the NC6s and BR1s, emissions from energy (excluding transport) are projected to grow by 3.1 per cent, while emissions from transportation are projected to decline by 19.6 per cent**.

20. **Emissions from all non-energy sectors are projected to decrease** over the periods 1990–2020 and 2010–2020, in general relatively more than emissions from the energy sector. Net **removals from the LULUCF sector are projected to increase by 27.4 per cent** between 1990 and 2020, but decrease by 31.8 per cent from 2010 to 2020.

21. In the longer term, for the 35 Parties that reported sectoral projections for 2030, it is expected that the energy sector will remain the dominant source of GHG emissions. Consistent with the projected changes for the period 1990–2020, emissions from 1990 to

2050 from all sectors are projected to decrease, although at a slower pace than in the period from 1990 to 2020. The waste sector is the exception to that projected trend. Net removals from the LULUCF sector are projected to continue increasing in the period 1990–2030.

22. The **projected total effect of PaMs reported as implemented and adopted in the NC 6s and BR1s is 3.1 thousand Mt CO_2 eq avoided annual emissions by 2020**. Almost half of those emission savings (44.5 per cent) are projected to occur in the energy sector. **Transport-related PaMs are expected to deliver annual savings of 0.6 thousand Mt CO_2 eq (or 19.4 per cent of the total savings)**, while the total effect of PaMs in the industrial processes sector is expected to account for 16.6 per cent of the total expected emission savings. PaMs in the remaining sectors are expected to result in about 20 per cent of the total emission savings.

C. Quantified economy-wide emission reduction targets and progress in their achievement

23. All Annex I Parties, except Turkey, have pledged targets as agreed in the Copenhagen Accord, which are contained in document FCCC/SBSTA/2014/INF.6. All of those **Parties submitted relevant information relating to their targets and progress in their achievement** in their BR1s. The information relating to the targets included assumptions and conditions, base year, coverage of gases and sectors and the role of LULUCF and carbon credits from market-based mechanisms.

24. Regarding the progress made towards achieving their targets, in their BR1s all Parties reported information on their mitigation PaMs implemented to achieve their targets. To **achieve their 2020 targets, Parties have strengthened their mitigation PaMs**, building on the policy infrastructure set up so far for the implementation of the Convention and its Kyoto Protocol. The effects of those mitigation PaMs are reflected in the emission trends: total GHG emissions (without LULUCF) in 2011[10] were below the base year emission level for most Parties and for some Parties also below the calculated target year emission level. However, as emission reductions can be the result of technological improvements, behavioural changes and economic and demographic shifts – some induced by PaMs, others not – it is **difficult to separate the effects of PaMs from the effects of other key drivers**.

25. A number of **Parties reported on their plans to use units from market-based mechanisms and LULUCF to achieve their targets** and some Parties reported a preliminary assessment of how LULUCF can contribute to their progress towards achieving their targets. However, that information is very preliminary and in some cases incomplete. Hence, it is not possible at this point in time to outline any general trends in terms of the contribution of LULUCF and the use of market-based mechanisms to the achievement of Parties' targets.

26. By 2020, the emission reductions resulting from the implemented, adopted and planned mitigation actions of all Annex I Parties are projected to equal 3.1 thousand Mt CO_2 eq. Thus, **emission reductions due to mitigation PaMs are expected by most Parties to contribute significantly to their expected emission reductions by 2020**.

27. When comparing the reported information on the 'with measures' and 'with additional measures' projections and the provisional calculated target year emissions, it appears that many **Parties expect that they can achieve their 2020 targets with**

[10] Parties reported GHG inventory data for 2011 in their NC6s and BR1s, as this was the most recent year for which data were available at the time of preparation of NC 6s and BR1s.

currently implemented and adopted PaMs alone, namely the EU and its member States, while some Parties need to put additional PaMs in place to achieve their targets.

D. Policies and measures

28. Since 1 January 2010, when the NC5s were due, **Parties have added some important PaMs** to their portfolios for climate change mitigation, but **mostly they have worked at strengthening and refining their existing PaMs** – implementing more stringent features, achieving wider coverage and increasing resource expenditure. Overall, most Parties have kept to the general strategies and portfolios of PaMs reported as implemented or adopted in their NC5s. Notable exceptions are Australia, which has instituted major reforms to its climate change strategy and policies,[11] and the United States of America, which has begun regulating CO_2 emissions from power plants because its plans to establish a national emissions trading scheme (ETS) did not materialize. Therefore, the general mix of PaMs – economic and fiscal instruments, regulations, voluntary/negotiated agreements, framework targets, information, education and awareness programmes, research and development (R&D), and other instruments – reported in the NC6s and BR1s is very similar to that reported in the NC5s.

29. The information reported in the NC6s and BR1s suggests that most Parties continue to view **climate change as a prominent policy concern**, with all Parties having national climate change strategies, action plans and programmes with mitigation PaMs. Some **1,448 implemented, adopted and planned mitigation PaMs**, with highly diverse scopes and expected emission impacts, were reported. The PaMs are used at all levels of governmental jurisdiction – regional, national, state/provincial and municipal – to influence the investments, purchases and behaviours of numerous individuals and institutions involved in a myriad of activities related to energy supply, energy end-use and non-energy emissions.

30. **PaMs, along with some autonomous technological improvements, behavioural changes and economic and demographic shifts, are reducing or at least limiting growth in GHG emissions in most Annex I Parties** (see paras. 8 and 15 above). The multitude of reported climate change PaMs is diverse and complex, but the **following emerging trends are apparent**:

(a) In response to the urgent need to reduce GHG emissions, **Annex I Parties agreed to implement economy-wide emission reduction targets for 2020** and submitted relevant information on their targets in 2010 (see para. 23 above). In addition, Annex I Parties to the Convention that are also Parties to the Kyoto Protocol agreed on legally binding emission reduction targets for the second commitment period, which spans between 2013 and 2020;

(b) The requirement to meet their 2020 targets shaped Annex I Parties' further policy responses. They have **mostly strengthened and refined the details of their existing PaMs** (e.g. the phase 3 reforms of the European Union Emissions Trading System and more stringent vehicle standards in Canada and United States) – to further reduce emissions, cut costs, diminish the administrative burden, etc. – as lessons are learned and market and technological conditions evolve. They have also **implemented some major new PaMs**: some reported as planned in the NC5s (e.g. United States regulations on emissions from power plants and the EU effort-sharing decision); and some newly reported in the NC6s and BR1s (e.g. the EU energy efficiency directive);

[11] The centrepiece of Australia's reforms, the Carbon Pricing Mechanism emissions trading scheme, was repealed in July 2014, after the submission of its NC6.

(c) Many Parties now have their **broad, foundational PaMs in place** (e.g. carbon pricing systems, vehicle and power plant regulations, framework targets and market reforms) and are **increasingly using more flexible policy instruments**, such as project funding, to realize the mitigation potential in niche or site-specific situations.. This is especially noticeable for Annex I Parties that are also Parties to the Kyoto Protocol because of their binding emission reduction targets for the first (2008–2012) and second (2013–2020) commitment periods of the Kyoto Protocol. Framework targets (or burden-sharing commitments), in the context of multilevel governance, are used to **devolve partial responsibilities for mitigation to other levels of government** (e.g. EU member States and states/provinces). These PaMs are increasingly specific – and often legally binding – in their mandates. The mitigation projects, **sometimes funded by Parties from recycled revenues from ETS auctions and carbon taxes or other sources**, are often administered by local authorities, which are closer to the niche opportunities and able to scale up action on the ground;

(d) **One of the major successes of PaMs is manifested in the rapid growth in renewable energy production and use in recent years** (during the 2004–2012 period, the non-hydropower renewable energy share of total electricity consumption grew from 2.5 per cent to 11.2 per cent in the EU and from 2.1 per cent to 5.4 per cent in the United States). This was attributed to a large extent to PaMs-based production targets, feed-in tariffs and price incentives. This growth has contributed greatly to limiting or reducing emissions and many Parties are working towards still higher renewable energy targets in the 2020 time frame. However, as **renewable energy technologies have matured and their costs have fallen considerably**, some Parties are reassessing the current levels of incentives and subsidies in meeting the higher targets;

(e) Parties continue to promote mitigation through PaMs traditionally associated with **energy goals** (e.g. vehicle fuel economy and energy security), but are increasingly drawing attention to the **emission reduction aspects** of those PaMs. For example, standards for vehicles in Canada, EU and United States are now defined in terms of both fuel economy and GHG emissions. Also, building labelling programmes in the EU include a measure of GHG emissions as well as energy use;

(f) Parties, in the context of job creation and economic competitiveness, are increasingly engaging with and supporting the **interests of their business and commercial enterprises** through PaMs focused on **low-carbon technology innovation and investment**;

(g) In the light of the Fukushima Daiichi nuclear power plant accident, some Parties have decided to **re-examine the political viability of** (and, in some cases, phase out) **their use of nuclear power and consider its impact on climate policy and targets**;

(h) Some Parties have begun seeking – through ETSs and associated offset programmes – increased emission reductions in the oil, natural gas and coal sector (e.g. **fugitive emissions**) (EU) and in the **agriculture and forestry sectors** (Australia). This is in addition to the traditional coverage of such schemes and programmes of fuel combustion and energy-use installations.

31. Several Parties provided information in their BR1s on the **assessment of the economic and social consequences of response measures**. Some Parties reported ways in which they minimize the adverse effects of the implementation of their PaMs, which is related to, but distinct from, the assessment of the economic and social consequences of PaMs. Some Parties made reference to the reporting, in their NC6s, on ways to minimize

the adverse effects of the implementation of PaMs under Article 2, paragraph 3, of the Kyoto Protocol.[12]

E. Financial resources, technology transfer and capacity-building

32. In accordance with the respective reporting guidelines, Parties included in Annex II to the Convention (Annex II Parties) provided in their NC6s and BR1s **quantitative as well as qualitative information on the provision of financial resources, technology transfer and capacity-building support** to developing countries. The information provided refers to **adaptation and mitigation activities** that were supported by them, including support directed towards clean energy, energy efficiency, forestry, sustainable landscapes, land use, transport, capacity-building and REDD-plus,[13] making use of multilateral and bilateral channels. Many Annex II Parties reported activities undertaken in the context of the fast-start finance period, which spanned from 2010 to 2012,[14] indicating that the collective commitment had been met.[15]

33. The **identification of clear trends** and patterns in the provision of financial resources as compared with the data provided in the NC5s **is very difficult owing to the numerous reporting issues**.[16] However, the information provided in the NC6s and BR1s suggests that Annex II Parties continue to make prominent use of multilateral and bilateral channels in the provision of financial resources for the implementation of the Convention, with a significant **increase in funds provided through bilateral channels in comparison with in the previous reporting period**.

34. There have been increases in the reported funding directed towards **adaptation** and, with regard to sectoral distribution, in the funding directed towards **energy, forestry, including REDD-plus, capacity-building and cross-cutting activities**, as well as in the financing provided to funds other than Convention funds that are relevant to climate mitigation and adaptation. In general, the information contained in the BR1s suggests that the predominant funding source is official development assistance. Furthermore, this information suggests that Annex II Parties mainly used grants as a financial instrument, with concessional loans, equity and non-concessional loans being the minority instruments utilized. The greater part of the funding reported on was marked as "provided" and as climate-specific contributions.

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[12] See document FCCC/SBI/2014/INF.21, paragraphs 23 and 221, for further information reported in NC6s.

[13] Policy approaches and positive incentives on issues relating to reducing emissions from deforestation and forest degradation in developing countries; and the role of conservation, sustainable management of forests and enhancement of forest carbon stocks in developing countries.

[14] At COP 15, developed countries pledged to provide new and additional resources, including for forestry and investments, approaching USD 30 billion for the period 2010–2012 and with a balanced allocation between mitigation and adaptation. That collective commitment has come to be known as fast-start finance. Following up on that pledge, COP 16 took note of the collective commitment and reaffirmed that funding for adaptation would be prioritized for the most vulnerable developing countries, such as the least developed countries, small island developing States and African countries. Furthermore, the COP invited developed country Parties to submit information on the resources provided by them to achieve the goal, including ways in which developing country Parties could access the resources, by May 2011, 2012 and 2013.

[15] More information, including all information provided by developed country Parties, is available at <http://unfccc.int/5646.php>.

[16] See document FCCC/SBI/2014/INF.20/Add.1, p. 95.

35. **Annex II Parties reported a continued provision of funding to the Global Environment Facility (GEF)**, although the sum of the amounts reported by Annex II Parties in their NC6s is lower than that reported in the NC5s. However, the sum of Annex II Parties' contributions to the **Least Developed Countries Fund** and the **Special Climate Change Fund** reported in their NC6s is higher than the sum of the reported amounts in their NC5s. In addition, Annex II Parties' reporting indicates a **continued provision of funds to the Adaptation Fund**, and they have started to report on funds provided to the **Green Climate Fund**.

36. Annex II Parties reported financial contributions to **multilateral institutions**, the sum of which is slightly lower than the sum reported in the NC5s. The sum of the reported amounts of support provided to multilateral development banks, such as the African Development Bank and the Inter-American Development Bank, however, is higher, in some cases significantly, than the sum of the contributions reported in the NC5s.

37. A few Annex II Parties provided specific information on their financial contributions to Climate Investment Funds, such as the Clean Technology Fund. The preference, identified in the NC5s, for channelling financial resources through funds that are not necessarily under the Convention has continued to manifest itself.

38. Several Annex II Parties provided information on the **regional distribution of their support and their prioritized allocation to the most vulnerable developing countries**, such as the least developed countries, small island developing States and African countries.

39. **All Annex II Parties provided information on practicable steps taken to promote, facilitate and finance the transfer of, or access to, environmentally sound technologies** and know-how to other Parties, particularly developing country Parties, thus giving effect to their commitments under Article 4, paragraph 5, of the Convention. Almost all of the Annex II Parties included a separate section on the transfer of technology in their NC6s and BR1s and many provided examples of concrete technology transfer projects and programmes.

40. Many Annex II Parties reported **engaging bilaterally with developed and developing countries in climate technology transfer activities**. Such activities were undertaken during various stages of the technology cycle, including the research, development, demonstration, deployment, diffusion and transfer of technology stages. Similar to in the NC5s, the activities in developing countries reported in the NC6s generally focused on the latter stages of the technology cycle, often as efforts to foster enabling environments to enhance technology transfer. The **majority of the activities were related to the mitigation** of GHG emissions in the energy sector, particularly in relation to renewable energy and energy efficiency technologies. However, since the NC5s, **more reported technology activities have focused on supporting climate change adaptation**. By region, Annex II Parties reported implementing a larger percentage of projects in the Latin America and Caribbean region and on a global scale since the NC5s.

41. Many Annex II Parties highlighted **factors that contributed to the successful implementation of their climate technology transfer activities**, including: aligning the activities with the national policies and priorities, plans and strategies of the recipient Party; undertaking a holistic and integrated approach to technology transfer (which includes capacity-building and awareness components); undertaking a market analysis; utilizing innovative financing; and developing strong and capable institutions, networks and expert capacity. Another success factor reported by many Annex II Parties was the development of **partnerships with and between relevant stakeholders**. Partnerships were reported to be an effective channel through which to implement technology activities and facilitate local ownership thereof.

42. The information on **capacity-building reported by Annex II Parties in their NC6s and BR1s covers all of the 15 needs and priority areas**[17] identified in the framework for capacity-building in developing countries established under decision 2/CP.7. Some Annex II Parties, while indicating their **difficulty in reporting on capacity-building** as a stand-alone activity, underlined the importance of **integrating capacity-building into projects and/or programmes**, thus ensuring that the capacity being built is relevant, effective and tied to results. In several instances, capacity-building support cuts across different climate change related areas, such as **poverty reduction, food security, health, research and systematic observation, and meteorology**. Several Annex II Parties reported on capacity-building support provided to countries with economies in transition according to the priority areas[18] identified in the framework for capacity-building in countries with economies in transition established under decision 3/CP.7.

43. Many Annex II Parties reported having intensified the provision of **capacity-building support through their participation in multi-stakeholder cooperation projects** and in interregional network initiatives at the national, regional and subregional levels. The wide spectrum of stakeholders mentioned by Annex II Parties includes actors from the public sector, the private sector and civil society. In particular, the NC6s and BR1s show an increase in examples of **public–private partnerships**. In that context, Annex II Parties have invested capacity-building efforts to enable developing countries to **attract private investments** to fund projects and activities with mutual environmental goals.

F. Vulnerability assessment, climate change impacts and adaptation measures

44. Annex I Parties provided information on vulnerability assessment, observed and expected impacts of climate change, national adaptation policies and legislative frameworks, and adaptation measures undertaken as well as planned. The NC6s, in comparison to the NC5s, contain more substantial information on national adaptation strategies, action plans and programmes and adaptation measures. They suggest that **adaptation efforts have been scaled up and enhanced**, as reflected in: the number of national adaptation strategies and plans and/or programmes that have been developed; the strengthening of the knowledge base; and the pronounced trend towards the increased implementation of adaptation measures at the local level.

45. Parties reported on **a range of sectors and areas that are most vulnerable to climate change** depending on their national circumstances, such as water resources, agriculture and food security, forestry, biodiversity and natural ecosystems, coastal zones, fisheries, human health, infrastructure and tourism, as well as emerging vulnerable areas relating to the urban, energy and business/trade sectors. The **climate change impacts** of most concern reported by Parties that are already observed or expected include increased extreme weather events, heat and water stress, and rising sea levels and temperatures.

46. Parties reported on **adaptation measures undertaken as well as planned across a wide range of sectors and areas**, including freshwater resources, agriculture, food security, biodiversity, fisheries, human health, forestry, infrastructure, urban areas and economic and trade systems. Parties increasingly mentioned **measures relating to cross-sectoral challenges and those with adaptation-mitigation co-benefits**. This trend is particularly visible in relation, but not limited, to the agriculture sector.

[17] Decision 2/CP.7, annex, paragraph 15.
[18] Decision 3/CP.7, annex, paragraph 20.

47. **Many Parties are increasingly seeing climate change adaptation as part of their sustainable development efforts and are increasingly mainstreaming their adaptation efforts.** Some Parties reported new multilateral and bilateral development cooperation initiatives to support the adaptation efforts of developing country Parties.

G. Research and systematic observation

48. Reported activities in the area of research and systematic observation show the **continuation of many long-term programmes as well as the development of new initiatives to address emerging needs for climate-related scientific knowledge and information**. Research activities to support policy processes and the assessment of national mitigation and adaptation strategies continue to be a high priority for almost all Annex I Parties.

49. Parties reported **greater coordination of climate-related research activities and enhanced collaboration across sectors**, in some cases also noting challenges in coordinating research and technology development, due to the cross-cutting nature of climate change, and the need for new multidisciplinary approaches to solve such challenges over the next decades. In addition, **active participation in international initiatives through regional and global research programmes and organizations** active in climate change research, and contributing to the assessments of the Intergovernmental Panel on Climate Change, continue to be important activities for many Parties. Climate system studies and modelling provide an example of where international cooperation and investments resulted in advances in the scope of the processes represented in global climate models, including: biogeochemistry; cloud and aerosol processes; and the inclusion of ice sheet model components.

50. While funds allocated to climate change research often reflect national strategic priorities, investments in **research are also being directed towards addressing gaps in scientific knowledge and reducing uncertainties**. Increased contributions from the private sector were reported, especially for research on mitigation, such as in relation to the energy sector and the transition to a low-carbon economy, and on climate change impacts and adaptation.

51. Research in support of a universal climate change agreement by 2015 was highlighted by a few Parties, and some Parties have established national knowledge centres to help reformulate research findings in support of related decision-making. A few Parties reported on research on the carbon cycle and climate stabilization, the peaking of emissions, and technological, economic and behavioural aspects relevant to the transition to a low-carbon economy in the context of limiting the temperature increase to 2 °C above pre-industrial levels. **Climate science assessments and advances in information management and data sharing**, including the promotion of free and open access to data, were highlighted as important mechanisms for informing decision makers and society.

52. Several Parties reported on **enhanced observations of the climate system**. Examples include new capacity, technology and sites for monitoring the atmosphere, oceans, cryosphere and biosphere systems and their interrelations. Advances made include the improvement of observation capabilities allowing better representation of snow and ice in global climate models and the availability of regional-scale and space-based observations of GHGs. Most Parties reported on their contributions to the Global Climate Observing System and other global observing systems in the oceanic and terrestrial domains, as well as on ongoing activities in relation to providing climate services.

53. **Support provided to capacity-building for research and systematic observation in developing countries** was highlighted by many Parties, including cooperation activities

implemented through bilateral and international programmes and projects and regional cooperation. Such activities help in enhancing the availability of data and knowledge on climate change, including on adaptation and mitigation options, strengthening systematic observation networks and capabilities and creating multidisciplinary research environments.

II. Education, training and public awareness

54. In their NC6s, most Parties highlighted **climate change education as an essential component of climate action** and reported an increasing number and range of activities in formal, non-formal and informal climate change education. Climate change is now **part of the official curricula at the preschool, primary, secondary and university levels** in most countries. While many Parties reported that climate change education is addressed as part of environmental education, some Parties have included it as a stand-alone subject or across disciplines and increased its prominence in recent revisions to the curricula. Some Parties reported on the introduction of new university programmes and adult education courses with a specific focus on climate change.

55. **Training for the public and private sectors** has been conducted by many Parties in collaboration with non-governmental organizations (NGOs) and private-sector entities, with a focus on **fostering the implementation of energy saving and energy efficiency measures**, low-carbon urban planning, transportation and construction practices, fuel-efficient driving, low-carbon procurement policies and ecotourism. Some Parties reported on advancements in **technical and vocational education and training** towards creating green skills and green jobs in the areas of renewable energy, energy efficiency, energy auditing and the development and deployment of environmentally friendly technologies.

56. All Parties reported having carried out **awareness-raising activities on climate change** related issues. Many Parties reported on activities that went beyond the objective of simply informing about the causes and adverse effects of climate change to encouraging the public to take concrete climate actions. The focus of many **awareness-raising activities** was the provision of information on direct and indirect GHG emissions from the production and use of goods and services and from lifestyle choices in order to give consumers and the private sector a basis for well-informed decision-making while encouraging behavioural changes towards low-emission production and consumption patterns. An **increasing focus on raising awareness of adaptation** issues, in particular with regard to extreme weather events, was reported by some Parties.

III. Conclusions

57. Annex I Parties' total **GHG emissions** excluding LULUCF **decreased by 10.6 per cent during the 1990–2012** period, owing largely to: EIT Parties' transition to market economies and the resulting drop in GDP and energy use; the adoption of more efficient technologies during the period 1990–2000; the global economic crisis, starting in 2008, which also resulted in a decline in energy use; the implementation of new and strengthened PaMs; and autonomous technological improvements and behavioural changes.

58. **During 1990–2012, emissions per capita and emission intensity of the economy in Annex I Parties declined by 15.2 per cent and 35.5 per cent, respectively**. Concurrently, while **between 1990 and 2012** TPES in Annex I Parties increased by 2.5 per cent, **TPES per unit of GDP (energy intensity of the economy) dropped by 28.0 per cent.** These positive changes were also accompanied by increases in the **share of RES in TPES** in both EIT and non-EIT Parties, leading to an overall increase in that share for

Annex I Parties of 62.2 per cent over the period 1990–2012. Together, these contributed to a **6.5 per cent drop in the carbon intensity of Annex I Parties' energy use** over that period. By 2012, the carbon intensity of the energy use of EIT and non-EIT Parties had become essentially equal. All these indicators point to a certain level of decarbonization of Annex I economies, which is in part attributable to the effects of PaMs.

59. Annex I Parties agreed to **implement economy-wide emission reduction targets for 2020** and submitted relevant information on their targets in their BR1s, including assumptions and conditions, base year, coverage of gases and sectors and the role of LULUCF and carbon credits from market-based mechanisms.

60. The 2020 targets have further shaped the climate policy responses of Annex I Parties, and emerging trends in PaMs include the strengthening and refinement of the existing PaMs to further reduce emissions, cut costs, diminish administrative burden, etc., as lessons are learned and market and technological conditions evolve. Parties have also implemented some major new PaMs (e.g. **regulations on emissions from power plants, EU effort-sharing decision and EU energy efficiency directive)**. Many Parties now have their broad, foundational PaMs in place (e.g. carbon pricing systems, vehicle and power plant regulations, framework targets and market reforms) and are increasingly using more flexible policy instruments, such as project funding, to realize the mitigation potential in niche or site-specific situations..

61. One of the major **successes of PaMs is manifested in the rapid growth in renewable energy production and use** in recent years and the considerable drop in costs, in part because of PaMs-based production targets and price incentives. Many Parties are working towards still higher renewable energy targets in the 2020 time frame as a contribution towards their 2020 emission reduction targets. Parties are increasingly calling attention to the emission reduction aspects of energy-related PaMs, in particular for those aimed at **energy efficiency improvements**. In the light of the Fukushima Daiichi nuclear power plant accident, some Parties are re-examining the political viability of (and, in some cases, phasing out) their use of **nuclear power** and considering the implications for their climate policy and targets. In the context of **job creation and economic competitiveness**, Parties are increasingly supporting the interests of their business and commercial enterprises through PaMs focused on low-carbon technology innovation and investment.

62. Overall, the PaM portfolios of Annex I Parties suggest an increased use of broad **carbon pricing** frameworks, based on **ETSs**, and **stronger mandatory regulations**. This is especially noticeable for Annex I Parties that are also Parties to the Kyoto Protocol, because of their binding emission reduction targets for the first (2008–2012) and second (2013–2020) commitment periods. A number of Parties are now implementing **second- and third-generation policy strategies and PaMs**, which reflect lessons learned and are likely to be more effective in reducing emissions than previous efforts. Many Parties have established or are planning multisector (cross-cutting) ETSs as a foundation element upon which to base their climate change mitigation strategies. Many Parties are **supplanting voluntary programmes with mandatory regulations**, including mandatory ETSs, in the key emitting sectors of electricity generation, emission-intensive industry, transportation, energy supply and road vehicle transportation. Several Parties are developing long-term strategies (e.g. to 2050), with corresponding R&D programmes, for decoupling GHG emissions and economic growth and establishing low-carbon societies.

63. With the implemented and adopted PaMs, total aggregate **GHG emissions excluding LULUCF for 41 Annex I Parties are projected to decrease by 9.7 per cent during the period 1990–2020**. Total GHG emissions in 2030 are projected to be 7.4 per cent below the 1990 level, because between 2020 and 2030 emissions are projected to increase by 2.6 per cent if no additional PaMs are implemented.

64. The **projected total effect of implemented and adopted PaMs suggests annual avoided emissions of about 3.1 thousand Mt CO2 eq by 2020** (about 16 per cent of the GHG emissions in 1990). Emissions from transportation are among the most difficult to reduce, and their growth has been identified by Parties **as the main challenge** in their climate change mitigation PaMs. Importantly, emissions from transportation declined after 2007. This trend is projected to continue and lead **to a drop in emissions of 19.6 per cent over the period 2010–2020**.

65. Parties provided information on the observed and expected **impacts of climate change**, ways to assess their **vulnerability**, and possible **adaptation measures**, strategies and options. As a continuation of the trend already observed from the NC5s, **adaptation and mitigation are increasingly viewed as complementary tracks** in the development of climate policy. The key sectors of concern in terms of climate impacts include: water resources; coastal zones; agriculture and food security; human health; forestry; biodiversity and natural ecosystems; and infrastructure and economy.

66. The NC6s suggest that **adaptation efforts have been scaled up and enhanced**, as reflected in: the number of national adaptation strategies and plans and/or programmes that have been developed; the strengthening of the knowledge base; and the pronounced trend towards the increased implementation of adaptation measures at the local level. Many Parties are increasingly seeing **climate change adaptation as part of their sustainable development efforts** and are increasingly mainstreaming their adaptation efforts.

67. Financial resources and contributions provided to developing countries reported by Annex II Parties in their NC6s, except those provided through the **GEF and multilateral institutions**, were greater than those reported in the NC5s. In particular, the sum of the **amounts reported as provided through bilateral channels was higher** for both mitigation and adaption actions. The **rise in contributions towards mitigation actions** was greater in absolute terms; while the **rise in contributions towards adaptation actions** was nearly double in percentage terms. Funding for forestry, including REDD-plus, capacity-building and cross-cutting activities also rose. A number of activities in the fields of transfer of technology, capacity-building, research and systematic observation, and education, training and public awareness were highlighted again in the NC6s as in the NC5s, including a number of international, bilateral and multinational activities and partnerships to foster the development and deployment of climate-friendly technology and the exchange of knowledge, information and data.

68. Many Annex II Parties reported **engaging bilaterally with developed and developing countries in climate technology transfer activities** from the beginning to the end of the technology cycle. Activities were undertaken in the **research, development, demonstration, deployment, diffusion and transfer of technology stages**. Activities in developing countries continue to target mainly the latter stages of the technology cycle, in order to **foster enabling environments** to enhance technology transfer, mostly in relation to renewable energy and energy efficiency technologies to mitigate GHG emissions in the energy sector. However, the NC6s and BR1s pointed to **increased technology transfer activities to support climate change adaptation** compared with those reported in the NC5s, with a larger share of reported projects implemented in the Latin America and Caribbean region and on a global scale.

69. Factors reported to contribute to the **successful implementation** of climate technology transfer activities include: **aligning the activities with the recipient country's national strategies**, policies and plans; adopting an approach to technology transfer that includes capacity-building and awareness components; undertaking a market analysis; utilizing innovative financing; and developing a strong and capable network. Lastly, Annex II Parties reported that **partnerships with and between relevant stakeholders** constituted

an effective channel for implementing technology activities and facilitated local ownership thereof.

70. **Capacity-building** activities reported by Annex II Parties **cover all of the 15 needs and priority areas** identified in the framework for capacity-building in developing countries. Annex II Parties reported having **intensified their activities** in a wide spectrum of **multi-stakeholder cooperation** projects and in interregional network initiatives at the national, regional and subregional levels, involving actors from the public and private sectors and civil society. Some Annex II Parties reported an **increased number of examples of public–private partnerships**, in line with their efforts invested in building capacity to enable developing countries to **attract private investments** to fund projects and activities with mutual environmental goals. They also highlighted the **importance of integrating capacity-building into projects and/or programmes** to help to ensure relevant, effective and results-based capacity-building support.

71. Parties have continued to strengthen their engagement in international and regional climate change **research and observation activities**, such as by participating in, and contributing and providing support to, **regional and international research programmes** and organizations that are active in climate change research and **global observing systems** and networks. Furthermore, many such **international cooperative efforts**, as well as other bilateral, multilateral or regional activities, provide support for **building and strengthening capacity** and facilitating the engagement of developing countries in such international research and observational activities.

72. Most Annex I Parties reported that **climate change education**, which is now **part of the official curricula** from the preschool to the university level, is an **essential component of climate action**. The number and range of activities in formal, non-formal and informal climate change education has continued to increase, and **training has been conducted by Parties in the public and private sectors in collaboration with NGOs and private-sector** entities to foster the implementation of measures addressing climate change. Some Parties reported on **technical and vocational education and training** towards creating green skills and green jobs in the areas of energy technology and use. All Parties reported having carried out **awareness-raising activities** on climate change related issues, focusing on information on direct and indirect GHG emissions from the production and use of goods and services and from lifestyle choices. An increasing focus on raising **awareness of adaptation issues**, in particular with regard to extreme weather events, was reported by some Parties.